TOWARDS AGILE WORKFORCE

CASE STUDY RESEARCH IN THREE COMPANIES

Master's Thesis
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Abstract of master's thesis

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Abstract

Many companies today face a highly turbulent and volatile environment caused by intense foreign competition, rapid technological change, shorter product life-cycles, and customers demanding more customized products. Several strategies have been developed to deal with unpredictability in the environment. Agility and agile methods have been widely accepted as a new competitive concept in many countries, including Finland. However, the understanding of how to build agile organizations remains weak. The thesis provides initial empirical evidence to better understand essential elements of agile workforce and their relationship with organizational agility. More specifically, the research aims to understand and describe the concept of workforce agility in the selected case companies. The second goal is to discover the management practices, methods and tools that the case companies have adopted in order to enable and support the actions of an agile workforce.

The thesis employs qualitative research methods with empirical approach doing semi- structured interviews in case study companies and conceptual approach using previous academic research. The case study companies are OP, DNA and Alma Media. The phenomenon of developing an agile workforce is rather new in large previously traditional organizations in Finland. Consequently, the study is exploratory by nature and aims to increase familiarity of the phenomenon in the Finnish context. The different cases were studied through interviews with managers that have been in a superior decision-making position and responsible for the change process, and managers or employees that have participated the implementation of the change process. Also, a HR specialist from Vincit was interviewed for her expertise on enterprise agility.

According to the findings employees' agile capabilities and attitudes towards agility are important factors when transforming towards enterprise agility. Findings show that companies that aim to make their organization more agile face two kinds of challenges. Firstly, companies must be able to arouse excitement and interest towards agility among employees. The second challenge concerns enabling agile work and managing the frustrations that arise. To deal with these challenges case companies employed similar practices, tools and methods that enable change management, change attitudes and culture, increase internal communication, knowledge sharing and cooperation; support empowerment and work organization, and promote new work methods and training.

Keywords Agile development, enterprise agility, agile workforce, change management

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Tiivistelmä

Nykyään useat yritykset toimivat erittäin turbulentissa ja muuttuvassa ympäristössä, jonka aiheuttaa kasvava kilpailu, nopea teknologinen kehitys, lyhyet tuotteiden elinkaaret ja asiakkaiden kasvava tarve räätälöidyille tuotteille. Yritykset ovat kehittäneet useita strategioita selviytyäkseen muuttuvassa ympäristössä. Ketteryys ja ketterät metodit on hyväksytty laajasti uudeksi kilpailukeinoksi niin Suomessa kuin ulkomailla, mutta ymmärrys siitä, kuinka rakentaa ketterä organisaatio, on silti heikko. Tutkimus tarjoaa alustavaa empiiristä tietoa ketteryyden kehittämisestä organisaatiotasolla erityisesti henkilöstön näkökulmasta. Tarkemmin tutkimus pyrkii ymmärtämään ja kuvaamaan, mitä työntekijöiden ketteryys tarkoittaa tapausyrityksissä. Tutkimuksen toinen tavoite on tunnistaa eri työntekijöiden ketteryyden mahdollistavia ja tukevia johtamisen työkaluja, käytäntöjä ja metodeja, joita tapausyritykset ovat ottaneet käyttöön.

Tutkimus hyödyntää laadullisia tutkimusmetodeja. Työntekijöiden ketteryyden kehittäminen on melko tuore ilmiö suurissa perinteisissä pörssiyhtiöissä Suomessa. Siksi tutkimus on luonteeltaan eksploratiivinen ja tavoittelee ymmärryksen lisäämistä suomalaisessa kontekstissa. Tapausyritykset ovat OP, DNA ja Alma Media, ja näissä yrityksissä on toteutettu semi-strukturoituja haastatteluja. Työntekijöiden ketteryyden kehittäminen on melko tuore ilmiö suurissa perinteisissä pörssiyhtiöissä Suomessa. Siksi tutkimus on luonteeltaan eksploratiivinen ja tavoittelee ymmärryksen lisäämistä suomalaisessa kontekstissa. Haastatteluissa haastateltiin johtajia, jotka ovat olleet päätöksentekoasemassa ja vastuussa muutoksen ajamisesta, sekä managereja ja työntekijöitä jotka ovat osallistuneet muutoksen toteuttamiseen. Lisäksi tutkimuksessa haastateltiin henkilöstöasiantuntijaa Vincit -yrityksestä.

Tulokset osoittavat että erityisesti henkilöstön ketteryys, osaaminen ja asenteet ketteryyttä kohtaan ovat merkittäviä tekijöitä koko organisaation ketteröittämisessä. Tutkimuksessani esitellään ja analysoidaan tapausyrityksien eri työkaluja, käytäntöjä ja metodeja, joita on käytetty mahdollistamaan ketteryys henkilöstön työssä ja ajamaan asennemuutosta ketteryyttä kohtaan. Tulokset osoittavat, että yrityksillä, jotka pyrkivät ketteröittämään organisaatiotaan kohtaavat kaksi eri haastetta henkilöstön kohdalla. Ensimmäinen haaste liittyy työntekijöiden innostuksen lisäämiseen ketteryyttä kohtaan. Tämä on ongelma erityisesti vanhempien sukupolvien kohdalla, jotka ovat tottuneet tasaiseen ja ennakoitavaan työskentelytapaan. Toinen haaste liittyy herätetyn innostuksen ja ketterän tekemisen tukemiseen ja turhautumisten hallintaan. Tapausyrityksillä on käytössä samanlaisia työkaluja muutosjohtamisen tukemisessa erityisesti kulttuurin ja asenteiden muuttamiseen, sisäisen viestinnän, tiedonjaon ja yhteistyön lisäämiseen, työnorganisoimiseen ja valtuuttamiseen sekä uusien työtoimintatapojen tukemiseen ja kouluttamiseen.

Avainsanat Ketterä kehittäminen, yrityksen ketteryys, ketterä työntekijä, muutosjohtaminen

Contents

1 Introduction to the Study:

According to Zhang (2011), the understanding of how to build agile organizations remains weak, even though agility has been widely accepted as a new competitive concept. More specifically the questions unanswered are: "what are the capabilities to be developed given different sets of changes in the business environment? Are there different types of strategies that can be adopted? How are they to be chosen? What are the practices/techniques to be implemented for a chosen strategy? ". My thesis provides initial empirical evidence to better understand essential elements of agile workforce (capabilities and management practices) and their relationship with organizational agility. The main objective of the study is to explore and compare the case companies' experiences of why companies choose to become agile, what are agility drivers they face, what are the agile capabilities they decide to build in their organization, what typical action programs are used for implementation and what kind of challenges or consequences companies face during transformation towards more agile enterprise. Further, my research tries to open up discussion and advance theory for a more holistic, comprehensive understanding about the workforce agility. Consequently, my research will explore the concept and main elements of workforce agility in three different organizations in finance, telecom, and media industries in Finland trying to transform towards enterprise agility.

My research contributes to the academic research in corporate agility in several ways. In general, the concept of workforce agility is rather scarcely studied and even debated. Even though there are numerous of studies on agility since 1880s (Brown et al. 1882), there are few empirical studies that offer a comprehensive analysis on enablers, practical strategies and management actions that can promote workforce agility (Alavi et al., 2014; Sherehiy et al., 2014; Muduli, 2013; Bottani, 2010; Sumukadas & Sawhney, 2004). Most studies on corporate agility concentrate on the theoretical descriptions of agility and agility frameworks, while few studies investigate these conceptualizations and frameworks empirically (Sherehiy et al., 2007). Moreover, there are a lack of studies that empirically investigate the practical methods to implement and adopt agility (Tseng & Ching-Torng, 2011; Qin & Nembhard, 2010; Zhang & Sharifi, 2007). Also, the previous research largely based on agile manufacturing, thus my research also aims to find out are the previous findings applicable for workforce in knowledge work and for the whole enterprise besides manufacturing today**.** Sherehiy and Karwowski also agree that only few studies that studied the effect of organizational factors on workforce agility or adaptive performance (2014). Moreover, most

research on agile enterprise is from 1990s and early 2000s. Consequently, my research will test empirically whether these findings have become obsolete as the demands and characteristics of company external business environment have changed rapidly.

In accordance with the revealed research gap, the purpose of this research has been to study the transformation towards enterprise agility in larger previously traditional stock companies. The research focuses on creating and supporting workforce agility in this case companies and the organizational challenges or other consequences that arise when implementing agile management practices in the early phase of the transformation towards enterprise agility. The research aims to understand and describe the concept of workforce agility in these case companies. The second goal is to discover the enabling and supporting management practices, methods and tools. These goals are stated in the following research questions:

1. How the organizations define the agile workforce and what are the key agile characteristics and behaviors of an agile workforce?
2. What are the management practices, methods and tools that the case companies have adopted in order to enable and support the actions of an agile workforce?

My thesis will employ qualitative research methods with empirical approach doing semi-structured interviews in case study companies and conceptual approach using previous academic research. My research will follow a structure typical for qualitative research and consist of review of previous research and theories; empirical research, which is mainly text-based data material; and my own analysis and reflections (Töttö, 2004).

2 Literature Review

2.1 The Emergence of Agility

Many companies today face a highly turbulent and volatile environment caused by intense foreign competition, rapid technological change, shorter product life-cycles, and customers increasingly demanding more customized products (Sherehiy and Karwowski, 2014). Several strategies have been developed to deal with unpredictability in the environment. Previous research names three terms “flexibility,” “responsiveness,” and “agility” as the aim of these strategies **(**Sherehiy *et al*., 2007). Some authors differentiate between those concepts while others use them synonymously. Sherehiy *et al*., (2007) define agility by distinguishing adaptability, flexibility, and agility. Their paper proposes a hierarchical interrelationship between the terms in that: flexibility is most commonly associated with the inherent property of systems, which allows them to change within pre-established parameters; responsiveness

commonly refers to a system behavior involving timely purposeful change in the presence of modulating stimuli; and agility is predominantly used to describe an approach to organizing that provides for rapid system reconfiguration in the face of unforeseeable changes.

The most dominant of these three terms, agility, has been recognized in the academic literature for few decades (Sherehiy and Karwowski, 2014; Sherehiy, 2007). Brown and Agnew in 1982 found that managers too often pay attention to optimization and efficiency, whereas developing company, system and workforce responsiveness would bring more value to succeeding in a dynamically changing environment. In the 1990s, the concept of agility became popular in manufacturing and the literature generally consists of research that focuses on manufacturing practices as enablers of agility and their implementation (Zhang, 2011). Such practices were dynamic process planning (Feng and Zhang, 1998; Lim and Zhang, 2003), responsive production scheduling (Maione and Naso, 2003; Lim and Zhang, 2004; Lim et al., 2009), flexible facility layout (Montreuil *et al*., 1999; Goh and Zhang, 2003; Anosike and Zhang, 2009), virtual enterprises (Cao and Dowlatshahi, 2005; Khalil and Wang, 2002), and the optimisation of supply chains (Mason-Jones and Towill, 1999; Zhang *et al*., 2006; Akanle and Zhang 2008).

After its introduction (Bottani, 2010), agility was later extended to whole enterprise-wide strategy or capability to cope with unpredictability (Moduli, 2013; Huang, 1999). Since 2001, the so-called agile methods have brought agility to the software industry, following the agile manifesto principles of: "Individuals and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation and responding to change over following a plan" (Abrahamsson *et al*., 2002). This research will discuss agility as a concept that concerns the whole organization.

2.2 The Concept of Agility

From the 1990s until recently, many publications have aimed to provide a definition and framework for agility. Even though there is no consensus on the meaning of agility (Bottani, 2010, Va´zquez-Bustelo *et al*. 2007), many definitions stress speed and flexibility and suggest that agility is "the ability of companies to respond quickly and effectively to (unexpected) changes in market demand" (Brown and Bessant, 2003; Sharifi and Zhang, 2001), with the aim to meet varied customer requirements in terms of price, specification, quality, quantity, and delivery (Bottani, 2010). Agility is typically associated with high quality and highly customized products (Sherehiy, 2007; Yusuf *et al.,* 1999).

Lu and Ramamurthy (2011) identify two types of organizational agility: market capitalizing agility and operational adjustment agility. A company with market capitalizing agility is able to respond and capitalize changes in environments in a timely manner. This requires an entrepreneurial mindset that supports a dynamic, aggressively change-embracing, and growth-oriented strategic direction, decision making, and judgment in uncertain conditions (Sambamurthy *et al*. 2003). Companies with operational adjustment agility are able to internally reconfigure their resources, processes, and operations to cope with market or demand changes (Sambamurthy *et al*. 2003). This kind of agility stresses the need for flexibility in operations to enable fast and fluid innovation inside companies. Yusuf *et al*., (1999) also underline that agility requires a dynamic interplay or reconfiguration of company resources and capabilities, as they state that agility is "successful exploration of competitive bases (speed, flexibility, innovation, proactivity, quality and profitability) through the integration of reconfigurable resources and best practices in a knowledge-rich environment to provide customer-driven products and services in a fast-changing market environment." Accordingly, agility "directly affects a company's capability to produce and deliver new products in a cost-efficient manner" (Bottani, 2010).

Further, Nelson and Harvey (1995) state that agility is also a capability to not only respond but also proactively cultivate solutions for potential needs. Consequently, agility also means exploiting and taking advantage of changes in the market not merely making required corrective actions (Nelson and Harvey 1995; Sharifi and Zhang, 1999). This requires companies to have the ability to sense, perceive, and anticipate changes in the business environment (Zhang and Sharifi, 2001). They also emphasize that that agility arises from the organization and people cooperating in ways that bring value to the individual, the organization, and their customers. In turbulent and competitive environments, people, skills, knowledge and experience are the main differentiators between companies (Goldman *et al*., 1995).

Sherehiy (2007) state in their overview article that "the global characteristics of agility which can be applied to all aspects of enterprise are: flexibility, responsiveness, speed, culture of change, integration and low complexity, high quality and customized products, and mobilization of core competencies." Further, the main benefits of agility are categorized in five different effects: reduced time-to-market, increased quality, reduced waste, better

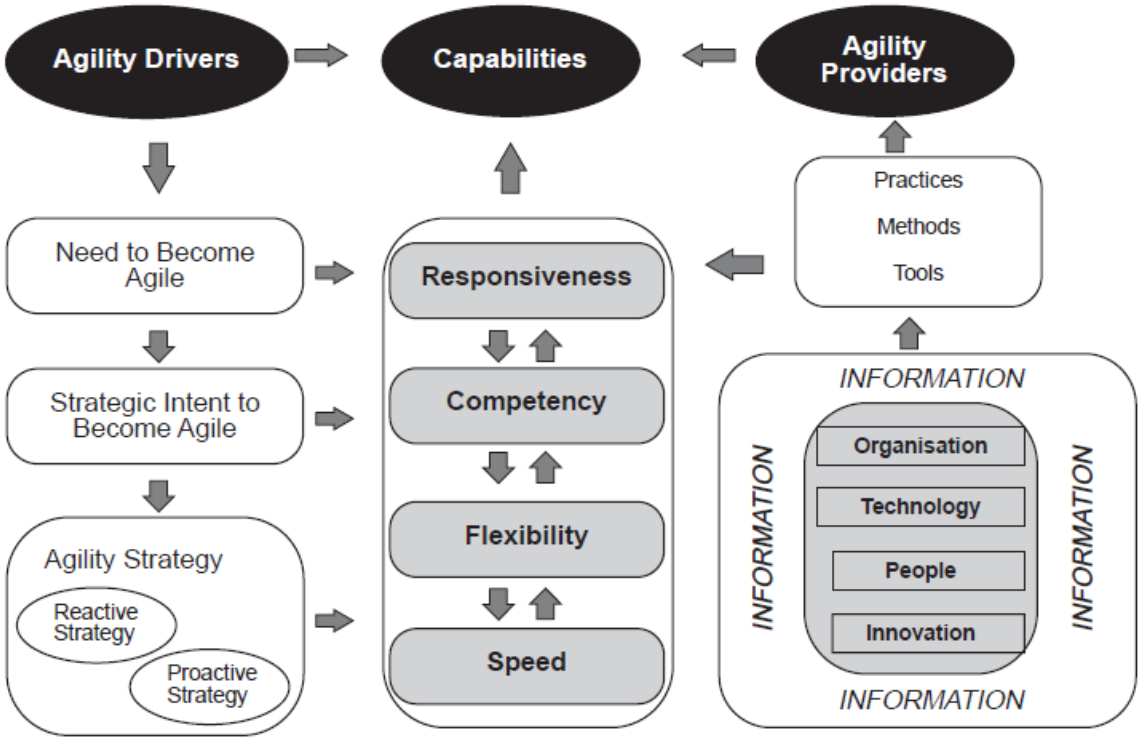
predictability, and better morale (Schwaber *et al*. 2007). Yet, some authors argue that even though these benefits are generally recognized, many of them have not been empirically proven. Many companies have not collected comparable "before and after" data when they switched to the agile mode of development (Schwaber et al. 2007).

It has been criticised that basic principles and goals of agility is nothing new, but actually resembles other management philosophies as indicated in Valtasola's (2012) meta research. She also recognizes that some principles of agility seem self-evident and are pursued in several different trendy management philosophies. However, in her research, she indicates how agile organizational planning management and development is distinctive in the sense that it gives a comprehensive approach to management and leadership from the point of view of the whole organization and the individual employee. Consequently, she sees that agility can be seen as comprehensive set of actions, principles, and characteristics, which are implemented to create an organization that actively transforms itself and has strong capabilities to survive in rapidly changing environment. Similarly, Goldman *et al*. (1995) agree that agility is a comprehensive response to business challenges in a turbulent environment. Yusuf et *al*. (1999) also identify that the competitive foundations of agility: speed, flexibility, innovation, proactivity, quality, and profitability have to be achieved in synergy. Jackson and Johansson (2003) further propose that "agility is not a goal in itself but the necessary means to maintain the competitiveness in the market characterized by uncertainty and change."

2.3 Elements of Enterprise Agility

As explained, there is wide variety of definitions for agility proposed by several authors, yet no universal definition has been found. Moreover, there have not been many attempts by researchers to conceptualize or create an integrated view on agility and agile enterprise, as the previous literature mainly focuses on different agile techniques and strategies (Sherehiy *et al*., 2007). In their review of a large number of different publications, Sherehiy *et al*. study different concepts, frameworks, and attributes related to enterprise agility. They find that the conceptual model of agile manufacturing proposed by Sharifi *et al.* (2000) most holistically and concisely addresses the pivotal elements and attributes of enterprise agility. The conceptual model by Sharifi *et al.* was also later found useful and currently re-applied by a few researchers (Zhang, 2011; Tseng and Lin, 2011).

The conceptual model by Sharifi *et al*. is intended to provide a systematic tool for supporting strategic decision making related to implementing agility. The model helps companies to identify how agile practices can be assimilated into the existing practices, which practices in general are the most critical ones, and the priorities that are important when implementing agility (2000). The model is divided into three stages. At the first stage, companies should define their agility drivers, their need for agility, and the current level of agility. At the second level, companies should determine the agile capabilities that are required for the company to become agile. At the last stage, the practices, methods, and tools that create and support these capabilities should be identified. The model is described below:



However, Tseng and Lin (2011) emphasize that this model is by no means exhaustive, but new drivers, capabilities, and providers can be added and they can be changed, depending on the product or service, industry, market, and company goals. Moreover, agility drivers, capabilities, and providers need to be considered simultaneously and integrated into a coordinated, interdependent system (Zhang, 2011; Vázquez-Bustelo and Fernández, 2007). Alignment of these factors is critical, since according to Tseng and Lin (2011), it creates "an effective integrated procedure within the business to ensure that the agility providers can satisfy the agility capabilities and cope with agility drivers, ultimately transforming all of these attributes into strategic competitive edges." They also recognize that there is a lack of

sufficient detail regarding how these objectives and procedures are translated into action plans.

Agility drivers

According to Sharifi *et al.* (2001), agility drivers are the external forces that pressurize companies to recognize the need to become agile, revise their current strategy, and operations and adopt more agile approach to business. Sharifi *et al*. have categorized the different drivers into changes in the areas of marketplace, competition, customer requirements, technology, and social factors. Later, Tseng applied the model by Sharifi and found the following examples from the different external drivers categories: growth of niche market, increasing rate of change in product models, product lifetime shrinkage, rapidly changing market, increasing pressure on cost, increasing pressure of global market competition, decreasing new products time to market, quicker delivery time and time to market, increasing quality expectation, introduction of new soft technologies (software and methods), and environmental pressures (Tseng, 2011). Evidently, companies are motivated to adapt agile practices and constantly examine their environment to react and adapt not only for competitive differentiation but also for long-term sustainability (Lee, 2004). Similarly, Jackson and Johansson state that "agility is not a goal in itself but the necessary means to maintain the competitiveness in the market characterized by uncertainty and change" (2003).

Vázquez-Bustelo *et al.(*2007) find four agility drivers in the operating environment: "relatively unpredictable changes in the environment (high dynamism); highly-populated, competitive markets with one or more critical and scarce resources (high hostility/competition or low munificence); close links between firms and their suppliers, distributors, customers and competitors (high complexity); and varied products, lines, customers or businesses (high diversity)." According to their literature review, the level of dynamism and hostility in a turbulent environment has been emphasized as the key agility drivers. They also confirm in their empirical research that the increasing turbulence in operating environments is a significant positive influencer of companies adopting more agile manufacturing practices "as their former systems, techniques and their management, such as lean or flexible manufacturing, become insufficient." They also find that turbulence is prevalent in most industries today, especially in industries were consumer needs and requirements change rapidly, that experience high level of innovations in products and/or processes, and were high competition exists. Thus, they predict an increase in the adoption of

the agile operating model in the future, since they showed in their research several improvements in different success factors of companies after adopting agile manufacturing (2007).

The external forces are different for every firm and situation, thus how they impact also vary by firm (Tseng, 2011; Sharifi and Zhang, 2001). In turn, the level of changes and pressures in the environment will affect the required level of agility in a firm, thus the required levels of agility also vary from firm to firm (Tseng ,2011; Sharifi and Zhang, 2001). In fact, the required level of agility is said to be determined by three factors: the degree of turbulence of the business environment, the conditions of the environment in which the company operates (e.g. supplier problems), and the characteristics of the company itself *(*Sharifi and Zhang, 2001). For these reasons, understanding the different drivers of agility, characteristics of the business environment, and how they affect the organization is important for companies trying to adopt agile practices and methods (Ismail *et al*., 2006).

Agility capabilities

In their study, Sharifi *et al*. (2000) found four different generic capabilities of enterprise agility: responsiveness, competency, flexibility, and speed. Companies must first identify the drivers in their environment to determine which agility capabilities need to be acquired or enhanced. Yet, Sharifi *et al*. (2000) found in their research that this process is occasionally complicated by the fact that capabilities are sometimes related so that the enhancement of one capability leads to the enhancement of another capability at a different scale.

In their model, responsiveness stands for the ability to assess changes and opportunities and to take action either reactively or proactively to respond to and recover from these changes. Competency consists of extensive list of skills and abilities that bring the company productivity, efficiency, and effectiveness. Some of these abilities are:

- Strategic vision
- Appropriate technology, or sufficient technological capability
- Products/service quality
- Cost-effectiveness
- High rate of new product introduction
- Change of management
- Knowledgeable, competent, and empowered people
- Operations efficiency and effectiveness (leanness)
- Co-operation (internal and external)

- Integration

Flexibility means that the organization is able to do different work and achieve different objectives with the same facilities and resources. Flexibility arises from items such as:

- Product volume flexibility
- Product model/configuration flexibility
- Organization and organizational issues flexibility
- People flexibility

Finally, speed stands for the ability to perform tasks and operations in the shortest amount of time. Speed arises from skills such as:

- Quickness in new product time-to-market
- Quickness and timeliness in products and services delivery
- Quickness in operations (short operational lead-times)

Agility providers

As mentioned, agility capabilities and attributes can be achieved with agility providers. Sharifi *et al*. have derived four agility providers from their research in manufacturing: organization, technology, people, and innovation; and state that agility can only be realized by integrating these four areas and the support of information systems/technology (2000; Vázquez-Bustelo and Fernández, 2007). In their literature review, Sherehiy *et al*. also discover that the organization, people, and technology have been recognized as the main components of enterprise agility (2007). Zhang (2011) later applied the framework of Sharifi *et al*. (2000) and identified a fifth category; relationship with supplier, customer or competitor. In this chapter, all the agility providers, the organization, technology and information systems, innovation and relationship with supplier, customer or competitor and people, are briefly discussed as they all are interrelated according to the previous literature. However, special attention is paid to people or agile workforce, since it is the topic of this study. Agile workforce is discussed in more detail than other agility providers in chapter 2.4.

First, the organization as an agility provider refers to the capabilities that arise from the organization, structure, and culture. Worley and Lawler (2010) argue that agility enterprise requires a dynamic organization that can sense internal and external drivers for change and routinely respond to those changes effectively and efficiently. Secondly, innovation is also assumed as a characteristic of agile enterprise as explained in chapter 2.2. For example, Doz and Kosonen (2008) report that part of Nokia's experiences with agility was creating and

supporting a continuous flow of bold innovations (for new high-end devices and services). Also, new experiments and ideas need to be instantly tested and, if promising, immediately scaled up to a higher volume. However, Worley and Lawler (2010) also reveal that managing agile enterprise is a constant balancing act of the tension between creativity/innovation and cost/efficiency.

Thirdly, there are several researchers who explore and emphasize the connection between technology and information systems and organizational agility. For example, information, communication, and mobile technologies have been found to enhance the agile capabilities of the workforce by increasing the operational flexibility and speed of actions (Sherehiy, 2007; Goldman and Nagel, 1993; Yusuf *et al*., 1999). Past research has also suggested that information technology is necessary for agility due to the capability of processing and distributing a large volume and variety of information in real-time, which can be then be refined with the number of IT –enabled systems (Lu and Ramamurthy, 2011). However, technology and information systems have also been found to hinder or even impede organizational agility (Lu and Ramamurthy, 2011), partly due to relatively fixed physical investments in rigid legacy IT systems, inflexible IT architectures, or complex units of different technology silos (Van Oosterhout *et al*. 2006)

Chakravarty *et al*. (2013) view the connection between technology and agility by looking at the IT competencies as a source of agility, which comprises both IT infrastructure and IT capabilities. Based on previous research, Chakravarty *et al*. (2013) define IT infrastructure as "not only physical assets, such as hardware platforms, software applications, data repositories, and other networking and object-based technologies, but also the quality and frequency of updates to all IT-related asset stocks." IT competencies also consist of capabilities that support and enable the successful implementation of firm strategy and processes by efficient acquirement, deployment, sourcing, combining, and reconfiguration of IT resources (Chakravarty *et al*., 2013). Chakravarty *et al*. (2013) report that IT competencies have a dual role, a more direct enabling role and a facilitating role enhancing enterprise agility. Similarly, in a study of 128 companies, Lu and Ramamurthy (2011) provide evidence of a significant positive link between IT competencies and organizational agility.

2.4 Agile workforce

The importance of the workforce in building an agile organization has been recognized by several researchers. Earlier it was believed that enterprise agility and flexibility were

dependent on sophisticated technology (Tallon and Pinsonneault, 2011; Cao and Dowlatshahi, 2005). Yet, Sherehiy and Karwowski (2014) report how more recent findings stress how enterprise agility is dependent on the workforce and that ultimately, without an agile workforce, agility cannot be achieved in an organization. Workforce agility is found to result in "quality improvement, better customer service, learning curve acceleration, and economy of scope and depth" among other things (Sherehiy and Karwowski, 2014). Moreover, Zhang and Sharifi (2000) studied manufacturing companies that have achieved agility in their organization and their findings derived from several surveys and case studies show that management practices that concentrate on promoting agility in workforce and organization were found to be more critical and effective for the studied manufacturers than practices promoting other agility providers. This was contradictory to the previous literature that emphasized the need for practices such as a virtual organization, mass-customization, and utilizing technology (Zhang and Sharifi, 2000).

Research that studies the connection between the characteristics of environment on the organizational characteristics categorize two main types of organizational design or form: organic and mechanistic (Amiri, Ramazan, and Omrani 2010; Lawrence and Lorsch, 1967). In a stable and predictable environment, companies tend to adopt a mechanistic organizational form. Mechanistic organizations are characterized as bureaucratic or 'formal' organizations, which typically are operated by a large number of consistent and an intentionally established body of formal rules, follow strict definitions of hierarchy, functional roles and division of labor and have centralized authority, with a formal means of coordination and hierarchical communication. Consequently, in mechanistic organizations, working behavior governed by rules and decisions issued by supervisors tends to be largely predictable and accountable, interaction tends to be limited between functional units and information, and concerns tend to flow mainly vertically (Amiri, Ramazan, and Omrani 2010; Burns and Stalker, 1961).

Organic organizational structure is found to be more appropriate when organization operates in dynamic, unpredictable and complex environment. In comparison to the rigid mechanistic structure, organic structures tend to be less formal, less hierarchical, and less centralized. In organic structures individual tasks and roles are under constant adjustments and re-definition, and there are less power differentials such as titles, levels, status dimensions, etc.). Communication is lateral, open and informal and consists of information and guidance rather

than instructions and decisions and communication. The actions and employee behavior is guided through shared values, clarity of purpose and commitment (Burns and Stalker, 1961; Amiri, Ramazan, and Omrani 2010). Weick and Quinn (1999) also find that when companies organize for continuous change, they have "authority tied to tasks rather than positions, shifts in authority as tasks shift, systems that are self-organizing rather than fixed, ongoing redefinition of job descriptions and acceptance of change as a constant." Organizing for change and flexibility also has effects at the project level. In table 1, Conboy *et al*. (2011) describe the differences between more traditionally organized projects and agile projects.

Table 1. Contrast between traditional and agile methods

Project component	Traditional	Agile
Control	Process centric	People centric
Management style	Command and control	Leadership and collaboration
Knowledge management	Explicit	Tacit
Role assignment	Individual - favors specialization	Self-organizing teams - encourages role interchangeability
Communication	Formal and only when necessary	Informal and continuous
Customer involvement	Important usually only during project analysis	Critical and continuous
Project cycle	Guided by tasks or activities	Guided by product features
Desired organizational form or structure	Life-cycle model (waterfall, spiral, or some variation)	The evolutionary- delivery model
Technology	Mechanistic (bureaucratic with high formalization)	Organic (flexible and participative, encouraging cooperative social action)
Team location	No restriction	Favors object-oriented technology
Team size	Predominantly distributed	Predominantly collocated
Continuous learning	Often greater than 10	Usually fewer than 10
Management culture	Not frequently encouraged	Embraced
Team participation	Command and control	Responsive
Project planning	No Compulsory	Necessary
Feedback mechanism	Up front	Continuous
Documentation	Substantial	Minimal

Consequently, research on agile manufacturing have reported that an agile environment sets different requirements for the workforce than traditional or mechanistic systems: "(1) closer interdependence among activities, (2) different skill requirements, usually higher average skill levels, (3) more immediate and costly consequences of any malfunction, (4) output more sensitive to variations in human skill, knowledge and attitudes and to mental effort rather

than physical effort, (5) continual change and development, (6) higher capital investment per employee, and (7) favor employees responsible for a particular product, part, or process" (Sarhadi, and Gunasekaran, (1999). All in all, an agile workforce is expected to handle a great deal of uncertainty and complexity and have greater autonomy in reacting to unanticipated events (Plonka, 1997).

Nijssen and Paauwe (2013) find three important elements or competencies that need to be in place in order to achieve workforce agility. Firstly, having a scalable workforce means having a workforce whose actions are aligned with the business needs and is quickly and easily configured and transformed from one human resource configuration to another. However, constant reconfiguration increases the risk of loss of knowledge (Nijssen and Paauwe, 2013) and may lead to disconnection in an employee's valuable social network and relationships (Wright, Dunford and Snell 2001). Consequently, Nijssen and Paauwe (2013) name fast organizational knowledge creation as the second competency in an agile workforce. Similarly, Dyer and Shafer (2003) recognize the ability to "constantly create, adapt, distribute and apply knowledge" and are also very critical in turbulent environments. Thirdly, Nijssen and Paauwe (2013) stress coordination and integration, since having a highly adaptable, organizational infrastructure to support the antecedent competencies is essential.

At a more individual level, Allworth and Hesketh recognize two components of adaptive performance. The cognitive component consists of new learning, problem solving skills and other competencies. The non-cognitive or emotional component refers the emotional adjustments that help the employee to change jobs or task requirements or with change in general. Different components are described in Table 2 in more detail.

Table 2. Components of adaptive performance (Allworth and Hesketh, 1999)

Component	Behavior
Cognitive component	• New learning • Use of problem-focused coping strategies such as planning for change • Accessing information about change • Anticipating and solving problems associated with change
Emotional component	• Confidence in one's ability to cope with the change • Willingness to allow change to occur and do not resist it • Positive emotional reactions to change and the opportunities that change brings

Other researchers confirm that the motivational level or emotional factors affect the achievement of enterprise agility. Pulakos studied the correlation between adaptive performance and different attributes of a workforce and found a significant correlation between adaptive behavior and self-efficacy, experience measure, cognitive ability, emotional stability, and achievement motivation. Interestingly, however, emotional stability and adaptive performance were found to have the highest correlation. (Pulakos, *et al*., 2002). Dyer and Shafer (2003) stress the importance of having a common agility mindset, meaning employees at all levels must "understand and embrace the essentiality and essence of organizational agility." Similarly, Plonka (1997) says that "an agile workforce has a positive attitude towards learning and self-development; good problem-solving ability; comfortable with change, new ideas, and new technologies; ability to generate innovative ideas, and always ready to accept new responsibilities." Ultimately, having flexible resources depends on employees' willingness to be flexible.

Constant configuration and fluid assignments require significantly greater efforts from employees than traditional occupations (Dyer and Shafer 1998). Employees have to cope with changing job demands, surprising or unpredictable situations, and job complexity (Sherehiy, 2014). Employees' willingness and motivation to be agile is critical for achieving workforce agility. Consequently, motivating employees and dealing with e.g. job satisfaction, propensity to leave to enhance retention and lower turnover of valuable core employees should be an important concern for companies aiming to be more agile (Dyer and Shafer 1998).

Employees in agile enterprises are found to excel in three types of behaviors. Dyer and Shafer (2003) state that in order to achieve organizational agility, employees from top to bottom must excel three main types of behaviors: proactive, adaptive, and generative. Proactive behavior means the active search for new opportunities that might increase the company's success and taking the lead in achieving those opportunities. Consequently, agility is not limited to reactive behavior (Sherehiy 2007), but employees can affect the characteristics of their environment by using their knowledge and creating an impact (Alavi *et al*., 2014). Adaptive behavior requires the capability to change or modify oneself to better fit to a new environment by actively cooperating and sharing information and knowledge. Generative behavior means constant self-development and active participation in knowledge sharing. Table 3 presents the different behaviors in more detail.

Table 3. Agility-Oriented Mindset and Behaviors

Be Proactive	Be Adaptive	Be Generative
Initiate: Actively search for opportunities to contribute to organizational success and take the lead in pursuing those that appear promising **Improvise:** Devise and implement new and creative approaches to pursuing opportunities and dealing with threats	**Assume Multiple Roles:** Perform in multiple capacities across levels, projects, and organizational boundaries – often simultaneously **Rapidly Redeploy:** Move quickly from role to role **Spontaneously Collaborate:** Engage often and easily with others with a singular focus on task accomplishment (and disengage just as easily when contribution is no longer needed)	**Learn:** Continuously pursue the attainment of proficiency in multiple competency areas, eschewing over-specialization and complacency **Educate**: Actively participate in the sharing of information and knowledge through the organization, as well as with its partners and collaborators

Research reveals several associations between characteristics or attributes of workforce and organizational agility, such as the developmental attitude, competency, and cooperative skills. A workforce especially needs to have a developmental attitude, be competent, be systematic in skill development and problem solving, and seek information or ask questions to clarify to enable organizational adaptability and flexible capabilities (Muduli, 2013; Plonka, 2007). Employees also need to be active in taking initiatives, and in questioning and re-thinking issues. An agile workforce should exhibit two types of learning; adaptive and generative. Adaptive learning denotes the kind of learning that results in constant improvements in current operations. Generative learning means "employees at all levels to question and challenge all aspects of the business, up to and including general direction, core values, and fundamental operating principles," which may result from ongoing education, dialogue, debate, and experimentation, and lead to new perspectives about the market environment and if necessary, organizational change. (Dyer and Shafer 1998).

As described, an agile organization typically holds the characteristics of an organic organization and thus requires employees to be able to adopt multiple roles very quickly and perform different capabilities across multiple levels and functions. The changes in the environment develop personal skills, abilities, or work methods and thus can cause

mismatches between the employees and work environment and thus require skill variety (Sherehiy *et al*. 2007). Consequently, having a heterogeneity of resources does not automatically bring a competitive advantage. But how these resources are developed, organized, and exploited can bring a distinctive advantage (Blome, Schoenherr, and Rexhausen, 2013).

In their case study, Jackson and Johansson (2003) also stress that agility arising from product-related change capabilities and change competency within operations are relevant agile capabilities for competition. Product-related capabilities mean enriching customer value by seeing, developing, and selling company products and services as solutions. Embracing customer satisfaction, questioning whether the product holds customer value, and customizing the solution according to customers' actual needs are product-related change capabilities. Change competency means adapting to customer requirements and finding and creating different product variations and combinations. These disturbances in customer demands typically happen within operations and require cross-functional coordination and cooperation with suppliers and other business partners. Customer responsiveness ultimately means speed, quality, and a sincere interest in meeting the client's needs (Madeline, 2003). Jackson and Johansson (2003) also remind us that it is important that these organizational level capabilities translate to an individual level.

Finally, several researchers stress developing collaborative attributes in an agile workforce (Sherehiya, Waldemar Karwowski, 2014). As was mentioned in chapter 2.3.3, successful relationships with customers, suppliers, and competitors have been recognized as important providers of organizational agility. Moreover, collaborative skills are also necessary in internal affairs. As explained, enterprise agility, customer centricity, and successful application of technology are highly dependent on cross-functional teams and IT business alignment. Likewise, Dybå and Dingsøyr (2008) find in their research that good interpersonal skills are critical for a successfully functioning agile team. According to them, teams should also trust in their own abilities, build trust within the team, show respect and a sense of responsibility towards other team members. The ability to build trust is also a perquisite in collaborations with customers, suppliers and competitors, since the form of collaboration greatly differs from the more traditional client-supplier relationship. Cooperation with external partners also requires a tight atmosphere that recognizes common values, where open and redundant information sharing and strategic building of the partnership network

occurs so that cooperation can happen at different levels and horizontally across different business partners. All in all, employees are expected to effectively and spontaneously take part in any collaborative actions and environment (Forsythe, 1997), which can vary from cross-functional project teams, collaborative undertakings with other companies or virtual organizations (Bottani, 2010).

2.5 Tools, Practices and Methods to Enable and Promote an Agile Workforce

Previous research reports several different practices, tools, and methods that have been associated with an agile workforce. Moreover, Alavi *et al*. (2014) argue that an understanding of organizational characteristics is significant in order to achieve an agile workforce. They also stress the importance of identifying the most important practices related to developing an agile workforce. However, previous research has not yet found consensus or empirically tested what are the most important practices, tools, and methods at a practical level related the development of an agile workforce, thus more research on this is needed (Alavi *et al*. 2014; Qin and Nembhard 2010). Finding proper practices starts with translating the requirements of agility drivers into agility capabilities and subsequently finding the requirements for actions (Tseng and Lin, 2011). Zhang and Sharifi also remind us that in order to achieve the expected results, the new agility practices have to be fully integrated with existing practices in an organization and this integration typically is organization-specific (2000). Beltrán-Martín and Roca-Puig (2013) also agree that different HR practices must form a coherent system and organizations must hold a supportive HR orientation, since according to their findings, these aspects significantly influence skill flexibility and, indirectly, behavior flexibility. Previous research on these kinds of practices, tools, and organizational characteristics are discussed in more detail in the following chapter. Practices related to work organization, empowerment, and hierarchy; motivation and culture; leadership; training, knowledge sharing, and transparency; appraisal and compensation; structure, infrastructure and technology have been found.

Work organization

As was earlier mentioned, organic organizational design characterized by clarity of purpose and little formal regulation in respect to job description, work schedules, and overall organizational policies is very often connected with agile enterprises (Alavi *et al*., 2014). In his study, Sherehiy (2014) uncovers that work organization as a latent variable has a strong positive influence on workforce agility, which in his study was understood as “an observable

agile performance or behaviors at work, not the agile personality, predispositions, or attributes." He argues that great autonomy at work, which allows employees to decide how, when, and what method to use to perform the job, is the highest predictor of workforce agility from the several factors that he studied. Other researchers also find that job autonomy positively influences innovation (Lane *et al*., 2010) and personal initiation (Frese and Fay, 2001), which are both critical for enterprise agility. Sherehiy (2014) also examines the influence of work control/autonomy and work organization characteristics (job demands, job control, skill variety, job uncertainty, and job complexity) on workforce agility. It was found that in situation where there is high job uncertainty (job includes surprising and unpredictable situations) and challenges (cognitive and physical effort required to excel in a job) and employees able to exercise job autonomy, active learning occurs and thus employees are more likely to behave in an adaptable way. However, in some of these situations, job uncertainty negatively influenced workforce agility. It was suggested that in these situations, the level of unpredictability was too high, which resulted in high pressure, stress, and thus less efficient adaptation at work (Sherehiy, 2014).

Beltrán-Martín and Roca-Puig (2013) investigated the influence of different human resource practices on workforce agility. Job enrichment was found to be the main contributor to workforce agility of the four practices studied. Other practices were human capital enhancing practices, developmental appraisals, and rewards. Job enrichment means a "conscious attempt by management to eliminate the worst aspects of routinized work and to provide intrinsically satisfying work" according to Beltrán-Martín and Roca-Puig (2013). Similarly, Moduli (2013) found in their review that employee rotation amongst different activities, tasks, positions, or departments and job enrichment were pointed out by several researchers as effective agile practices. Beltrán-Martín and Roca-Puig (2013) argue that intrinsic motivation is important for employees to take ownership and show flexible behavior at work. Consequently, they find that giving employees meaningful and challenging work in which they feel responsible or motivates them intrinsically. Whereas, other practices, such as compensation, merely act on extrinsic motivation.

Structure, policies and decision-making

Several researchers agree that empowerment or power sharing practices is key in achieving an agile workforce (Bottani, 2010; Goldman and Nagel 1993). Power sharing practices are found to improve efficiencies of training, switching, multitasking, and collaboration (Hopp

and Van Oyen, 2004; Youndt *et al*., 1996); and organizational learning, namely commitment to learning, shared vision, open-mindedness, and knowledge sharing. (Alavi *et. al*., 2014), thus they greatly and directly contribute to workforce agility. Moreover, Schultz (2014) also argues that empowerment fosters flexibility to change and helps employees to embrace change. He says that instead of resisting change, employees resist the loss of control, pain, and threats that are related to the change. Even if employees find the change necessary and for the better, they might resist change if the change is forced into practice with assertive actions. Instead, he argues that change should be implemented with communications, empowerment, and problem-solving strategies (Schultz, 2014). Moreover, Sharpe (2013) argues that employees commit more strongly to the successful implementation of decisions as decentralization of decision- making enhances the sense of ownership of employees.

According to Schultz (2014), ideally, employees at all levels can assess the current circumstances and operations from the perspective of customer needs, functional deficiencies, and market forces. Consequently, empowerment and power sharing mean empowering the front-line decision-making so that employees are given the authority to find solutions to the problems they identify and take necessary actions and enact processes in a timely manner without needing to wait for approval from higher management. In more hierarchical organizations, strict power structures and processes tend to result in bureaucratic inertia and fail to respond to the ever-changing environmental requirements. Lastly, proactive summarizes that empowerment means "that the power to act—based on having quantifiable information and being close to the location where a need is discovered—is embedded at the individual decision-making level. It is about the ability to act with confidence because skills have been developed through training and experience and ensuring that the organization's best interests will be looked after in the long run."

Sumukadas and Sawhney (2004) make the distinction between high- and low-power sharing practices. Low-power practices can involve different employee committees or other employee participation groups in which volunteers meet regularly to propose improvements for work-related problems and organizational performance. Collecting employees' opinions via surveys and using suggestion systems to gain ideas are also a part of the problem solving process in low-power practices. High power practices include job enrichment, job enlargement, and self-managed teams. Self-managed teams are said to be the most advanced

form of power sharing practices. Self-managed teams are responsible for a whole product or service, and can make decisions about task assignments and work methods. Other additional responsibilities can be maintenance, purchasing, quality control, hiring and firing, and determining pay increases. Their empirical research shows that lower-order practices merely provide a supportive environment and a foundation for workforce agility, whereas higher-order practices can more directly contribute workforce agility.

Schultz (2014) points out that empowerment demands willingness from those in charge to share their authority and deal with issues that arise with power-sharing practices. Ultimately, empowerment is dependent on trust: the top managers trust in employees and employees trust in what they are allowed to do. Moreover, he has found the following three components enable and sustain empowerment: defined direction, freedom to make a choice, and sufficient support to complete assignments. Firstly, employees should be guided with their action by providing boundaries for actions, such as desired outcomes, measures for results, and any other information that clarifies the deliverables. Secondly, he suggests that authority and responsibility need to be clearly defined so that employees can achieve the best results without second guessing. Finally, sufficient support has to be given to employees. Employees need to have the required resources, such as essential equipment, materials, information, staff, and training. Moreover, the managers in the top positions need to become mentors, collaborators, and partners to guide and support employees work and decision making. (2014)

Alavi *et. al* (2014) studied the effect of low formalization, decentralized decision-making, and flat structures on workforce agility. Low formalization is said to benefit workforce agility, since having many rigid rules and procedures increases organizational inertia and limits alternative responses for employees regarding work and issues thus affects their ability to innovate and react to change (Pertusa-Ortega et al.2009; Devadasan YEAR,). Decentralized decision-making, on the other hand, is found to encourage employees to make decisions, generate ideas, and thus creates a sense of ownership and commitment in employees (Sharpe, 2013). According to Alavi *et al*. (2014), flat structure enhances agility in the workforce, since it eliminates time-consuming hierarchical referrals. Moreover, having the same opportunity to make decisions motivates the sharing of information and opinions. Increased cooperation and communication helps employees to deal with the stress of a turbulent environment and new skills adoption, thus results in more adaptive behavior. However, Alavi *et al*. (2014) found that organizational learning and only the decentralization

of decision-making and a flat structure were positively and significantly correlated with workforce agility.

Values, vision and goals

Common values, vision, and shared goals have been recognized as important factors that guide organizations' actions and builds employee commitment. Clear vision and purpose brings clarity, increases work satisfaction, and employees' willingness to be agile (Sumukadas and Sawhney, 2004). As explained earlier, in agile organizations, self-organization is said to be the root of order. Consequently, common values set the foundation for ethical and moral behavior and standards for behavior and interactions with suppliers and customers (Schultz, 2014) Values are also used in the creation of organizational goals. Overall, common enabling values and vision help employees to prioritize their work and sustain empowerment as they provide no boundaries for actions (Schultz, 2014). For example, empowerment requires clear purpose and unambiguous direction. Defined direction ought to include: "desired outcomes, measures for results, and any other information that clarifies the deliverables." Valtasola (2012) also agrees that common vision guides decision-making, and brings some level of stability, cohesion, feeling of community and organization identity.

Valtasola (2012) also reminds us that when identifying and developing strategic priorities, it is essential to understand what kinds of changes are happening in the environment and how they affect the actions of the organization. Many researchers emphasize the importance of customer centricity in making values and strategic priorities in agile organizations (Power, Sohal and Rahman, 2001). For example, the measurement indicators of organizational performance should focus on meters that measure customer value, not the traditional cost accounting (Montgomery and Lemak, 1996 as cited in Valtasola (2012).

Accordingly, Schultz (2014) encourages that companies should intend to be more agile to identify, communicate, and assure equal access to a common set of values. Values which usually reflect company culture are created by communal interaction and reinforced via mutual selection, transfer, and conscious application. Similarly, Schultz (2014) also advises to create organizational goals jointly, since it creates accountability and ownership in employees. Goals and plans should also be routinely reviewed and updated as the contingencies change. However, this decision-making should be transparent, open, and

available for everyone in the organization with relevant expertise. Lastly, the reasons for the direction and goals should be well communicated to everyone in the organization (Schultz, 2014).

Organizational culture

Iivari and Iivari (2011) define organizational culture as "a symbolic system consisting of learned, shared, patterned sets of meanings guiding the actions of cultural members." Organizational culture influences the basic assumptions and beliefs, attitudes, values, norms, morals, models of behavior, customs, rituals, practices, habits, specific languages, ideas and symbols, heroes, art, artifacts, knowledge, and technology that exist in the organization. According to Iivari and Iivari (2011), several researchers agree that culture exists at several levels with varying degrees of awareness of the presence and influence of culture. For example, Schein (1985) recognizes three levels of organizational culture. At the surface level, different artifacts of culture are visible and can be easily detected. The intermediate level consists of values and beliefs that guides members of organization what ought to be done. At the deepest level are the basic assumptions of which members of the culture are not aware of but take them for granted.

Culture affects the behavior of its members, individual actions, and how people accomplish work in several ways. Schultz (2014) explains that every organization exhibits culture and how culture is displayed as collective behavior. Culture is formed between groups of people who work together for any period of time. Culture has an important function of facilitating cooperation and working together. New members of a culture are accepted to the group by unwritten and unspoken rituals through which members learn and understand his or her position and level of contribution in the group. Position and level of contribution in the group are based on individual loyalties and capabilities. Culture also guides the interactions between people in the same group and across different groups, departments, or organizations. Culture also affects how employees relate to one another, and how employees confront issues and resolve issues are a reflection of culture.

Culture becomes important in change situations. Typically, when planning for change, managers tend to aim to influence the cultural attributes—values, norms, and beliefs. However, these attributes are influenced by many complex actions, thus they are not easily manipulated and also culture itself is shaped by several factors (Schultz, 2014).

Consequently, Schultz (2014) recommends that "the focus should be on the mechanisms that drive their (cultural attributes) formation and influence modifications in their expression" instead of trying to directly manipulate cultural attributes. These mechanisms are helpful human resource practices, such as hiring, employee development, promotion, discipline, and termination. Also, infrastructure supports the new way of working and clear performance standards and guides employee actions by letting them know what is being measured and how (Schultz, 2014).

Research on agile organizations has found several different characteristics and functions of culture in agile organizations. Other important characteristics of organizational culture in agile enterprise are innovativeness, learning and constant renewal (Valtasola, 2012). Also, culture that embraces questioning and rethinking the existing operations, strategies, and ways of working are essential (Dyer and Shafer 1998; Doz and Kosonen 2008).

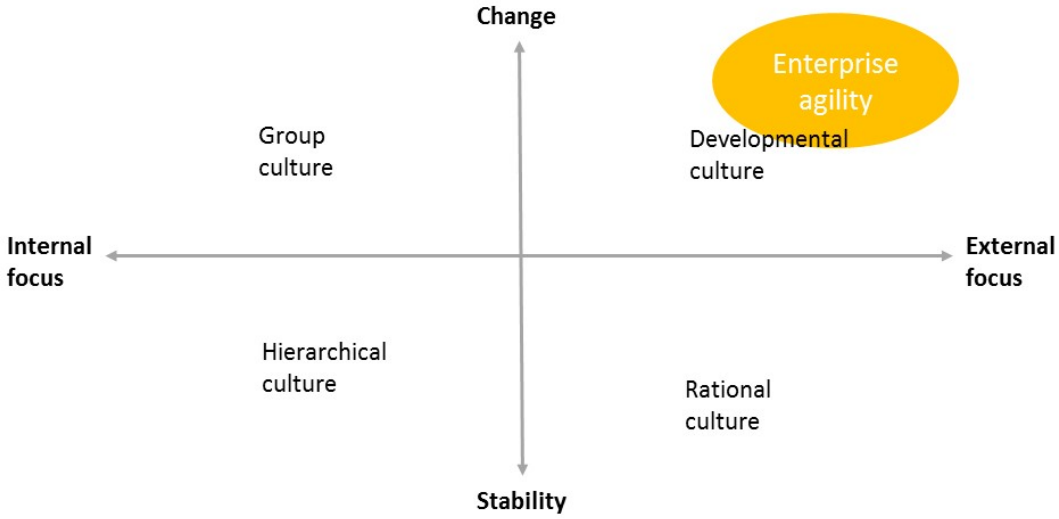
Finally, for enterprise agility, organizational culture becomes important from the point of view of an efficient team and cross- functional cooperation. Schultz (2014) says that developing a sense of community is critical in agile organizations, since employees feel recognized, cared for, and have a shared sense of responsibility. Similarly, Whitworth and Biddle (2007, as cited in Räisänen, 2013) tried to identify the characteristics that are related to team cohesion in agile teams. In their research, they found that a collective team culture is the main factor that fostered team cohesion and motivation.

Iivari and Iivari (2011) studied the relationship between organizational culture and the deployment of agile methods. They classify four different types of cultures that lie in different dimensions of four competing values. These cultures are displayed in the competing values model (CVM) in Figure 1. The model is based on two distinctions: change versus stability and internal focus versus external focus, which represent competing values and impose competing demands. In the graph, stability emphasizes control, continuity and order, while change focuses on flexibility and spontaneity. Internal focus emphasizes integration and maintenance of the socio-technical system, whereas external focus underlines competition and interaction with the organizational environment.

The four cultures are group culture, hierarchical culture, developmental culture, and rational culture. Group culture (change and internal focus) is primarily oriented towards human

relations and flexibility. In the group culture, effectiveness is measured in terms of the development of human potential and member commitment and belonging, trust, and participation are the core values. Hierarchical culture (stability and internal focus) is concerned with security, order and routinization. In hierarchical organizations, control, stability and efficiency are the main values and are imposed through regulations. The developmental culture (change and external focus) is future-oriented. The effectiveness criteria emphasize growth, resource acquisition, creativity, and adaptation to the external environment. The rational culture (stability and external focus) is primarily oriented towards achievement, mainly concerning productivity, efficiency, and goal achievement. As enterprise agility is usually associated with adaptivity, flexibility, and organic organizational structure, Iivari and Iivari (2011) represent enterprise agility in this framework as a developmental culture.

Figure 1. The competing values framework for organizational culture and enterprise agility



Leadership practices

In her review of the agile enterprise literature, Valtasola (2012) finds that leadership in general has been discussed relatively little. She also recognizes that agile leadership typically deals with several conflicting issues that create challenges for leadership. Accordingly, leading agile organizations requires holistic management and balancing between different principles, policies, and practices. She explains how since organizations must deal and react to with several factors in the environment and interests, they cannot focus on and serve one single objective. However, companies must be customer –centric and understand who they are serving. (Valtasola, 2012).

The central issue in agile organizations is that management is expected to give strong support and counseling in a very detailed way and create active discussions with employees, while they are also expected give a lot of autonomy and freedom to the employees to act and make decisions. Also, top management must ensure great flexibility in organizations and resourcing; they also need to provide common direction and some stability in human resource management, to build a long-term, competent and committed pool of employees, for example. Moreover, management must balance between efficiency and innovation, which are both regarded as attributes of agility. Typically, innovation and efficiency are understood as contradictory goals, as focus on efficiency often decreases possibilities for experiments and innovations. Consequently, Valtasola (2012) concludes that it is important for leadership to identify these contradictions and perceive the holistic organizational entity. Consequently, companies are not expected to follow one changing variable, but to act in an agile setting requires several different leadership approaches and this multiplicity of different approaches makes agile leadership challenging.

Consequently, Valtasola (2012) reports several different leadership roles in agile organizations. In agile organization, a team leader role holds important functions, since team leaders need to facilitate the actions of agile teams and lower the functional and departmental boundaries between teams. Leaders also need to provide coaching that detects and supports employee potential. Leaders also hold an analytical role, as they must analyze both the business and external environment for detecting changes and initiating proper actions. Lane *et al*. (2011) also add that agile leaders must provide a supportive working environment. Innovative and agile teams need their own large, relatively unstructured open space to foster collaboration and experimentation. Schultz (2014) also finds that leaders hold the important role of setting the right example through their own behavior and actions by decreasing resistance and encouraging risk taking. Top managers should aim to send consistent messages and be aggressive when correcting other managers' actions if they are sending mixed messages or fail to follow the established rules, policies, and values. Moreover, employees should not become over-stressed, since innovation and creativity will suffer. Consequently, leaders must find different practices to adapt and to support employees' work satisfaction and workload. For example, typically the same key people are used in several projects in key roles, thus these people must be offered additional resources and rewards, which can facilitate with their personal lives, such family or external commitments. Finally, a leader's role should also be able to foster a managerial orientation in management that "reflects an organization-

wide concern for providing a supportive work climate oriented toward people's involvement and commitment to the firm" (Beltrán-Martín and Roca-Puig, 2013).

Using data from 99 manufacturing plants in the United States, Kathuria and Partovi (1999) try to identify the management practices that promote flexibility in manufacturing organizations. They divide workforce management practices into three groups: (1) relationship-oriented; (2) participative leadership and delegation; (3) work-oriented practices (see Table 4). It was discovered that relationship-oriented, participative leadership and delegation are more effective leadership practices for managing work when the emphasis is high on flexibility. Furthermore, it was found that flexibility increases when manufacturing managers re-delegate their traditional responsibilities, such as monitoring, problem solving, etc., to their employees.

Table 4. Workforce management practices that promotes workforce agility (by Kathuria and Partovi, 1999)

Relationship-oriented practices	Participative leadership and delegation	Work-oriented practices
Inspiring	Consulting	Informing
Recognizing	Delegating	Planning
Supporting		Clarifying
Team building		Monitoring
Networking		Problem solving
Mentoring		
Rewarding		

Worley and Lawler (2010) introduce the concept of shared leadership. By shared leadership, they mean that in successful agile organizations, leadership should be carried out more like a team sport and seen as organizational capacity rather than an individual trait. This helps to share knowledge and power throughout the organization to process and respond to information quickly, without the need to acquire a high level of top-down decisions. Another benefit is that it enables the development of a pool of leadership talents by involving employees in decision-making activities. Finally, they believe that shared leadership enables change capability as the core team of competent people initiates change rather than a single leader in a high organizational position.

Training, knowledge sharing, and transparency

"Agility cannot be achieved without leveraging of employee's knowledge and skills"

(Plonka, 1997*)*. In agile organization, where employees are making decisions and working self-sufficiently and switching from one role and task to another, organizational learning is critical. Organizational learning occurs through knowledge and information sharing and training. Sarhadi and Gunasekaran (1999) stresses the significant role of training in creating workforce agility, because workforce agility depends on an ongoing learning process and teaches employees how to build skills.

Sumukadas and Sawhney (2004) summarize the different types of skill necessary for employee involvement: decision-making/problem-solving skills, leadership skills, skills in understanding the business (accounting, finance, etc.), quality/statistical analysis skills, team-building skills, and job skills. Cross-training and job rotation have been found useful with adapting to job enrichment and redesign (Bobrowski and Park, 1993). Other ways to organize training besides classroom training involves learning that utilizes technologies such as podcasting, social networking, and instant messaging to deliver just-in-time, point-of-need, bite-sized learning experiences (Mindrum, 2008). In Sumukadas and Sawhney (2004), they found in their empirical research that training did not have a direct influence on workforce agility, but training indirectly influences workforce agility by positively affecting power sharing in an organization.

Agile organizations should also have information sharing practices that provide employees with information on a regular basis. Such information may include: "the company's overall operating results, the business unit's operating results, new technologies that may affect employees, business plans/goals, and competitors' relative performance" (Sumukadas and Sawhney, 2004). Also information related to customers, accounting, business performance and management information are relevant for agile employees (Muduli, 2013). Transparency and access to relevant and timely information is important for employees' decision-making and responding to changes. Information can be shared through an official news source or an online bulletin board (Schultz, 2014), global access to databases and information, easy access to integrated data; an open information or communication policy; knowledge-based systems and knowledge management systems (Vázquez-Bustelo and Fernández, 2007). Overall, Vázquez-Bustelo and Fernández (2007) find in their review of knowledge sharing practices that it is important to have an organizational structure that fosters team-to-team learning and firm-wide integration of learning and continuous learning. Similarly, Schultz (2014) sees that companies should ensure that lateral communication is open and accurate. Flow of

information highly depends on relationships and thus can be enhanced by creating boundary-spanning roles, such as committees, task forces, and cross-functional teams (Schultz, 2014).

However, in their research of the impact of information sharing, training, reward, and power-sharing practices on workforce agility, Sumukadas and Sawhney (2004) found that information sharing practices had very little direct and indirect effect on workforce agility. They concluded that information sharing is a very basic form of practice that promotes employee involvement.

Developmental appraisal

In their research on four supportive HR practices namely, human capital–enhancing practices, developmental appraisal, equitable rewards, and job enrichment and their effect on workforce agility, Inmaculada and Vicente (2013) found that developmental appraisal has the second highest importance rating for workforce agility. Performance appraisal positively influences agility by contributing to flexible behavior. Performance appraisal gives feedback, discusses problems, and identifies areas for employee performance improvement so they can benefit companies in many ways. From a motivational perspective, performance appraisal provides extrinsic motivation and recognition for employees and also gives employees the sense that they can influence their careers (Inmaculada and Vicente, 2013). In agile organizations, employees' commitment to continuous change and development is necessary, and consequently, performance appraisal reassures employees that their developmental efforts are not waste of time and effort (Inmaculada and Vicente, 2013). Finally, Inmaculada and Vicente (2013) report that performance appraisals create knowledge as they track information about employees' progress at work.

Compensation system

Different reward and compensation practices can be used to promote agility in the workforce as they encourage employees to change and develop and align individual or group objectives with company objectives (Sumukadas and Sawhney, 2004). Sumukadas and Sawhney (2004), also report that team-based incentives foster teamwork, adoption, and application of new skills. Similarly, Sumukadas and Sawhney (2004) concluded in their study that so-called non-traditional incentives, such as improvement-based incentives, non-monetary rewards, skill-based pay systems, etc. contributed to agility more than traditional ones. Different incentives

can be individual or team based. According to Sumukadas and Sawhney (2004), examples of different incentives are:

- "Profit sharing plans share a portion of profits with employees.
- Gain-sharing plans share a portion of gains in productivity, quality, or other performance indicators, and typically include a system of employee suggestion committees.
- Employee Stock Ownership Plans (ESOPs) enable employees to buy stock
- *Non-monetary* or recognition awards include gifts, publicity, dinners, etc., for individual or group performance.
- Incentives based on improvement foster a culture of change"
- Knowledge- or skill-based pay is based on how many skills employees have. Skill-based pay promotes cross-training and team-work (Lawler *et al*., 1992 as cited in Sumukadas, N., & Sawhney, R., 2004).

Information and communication technology

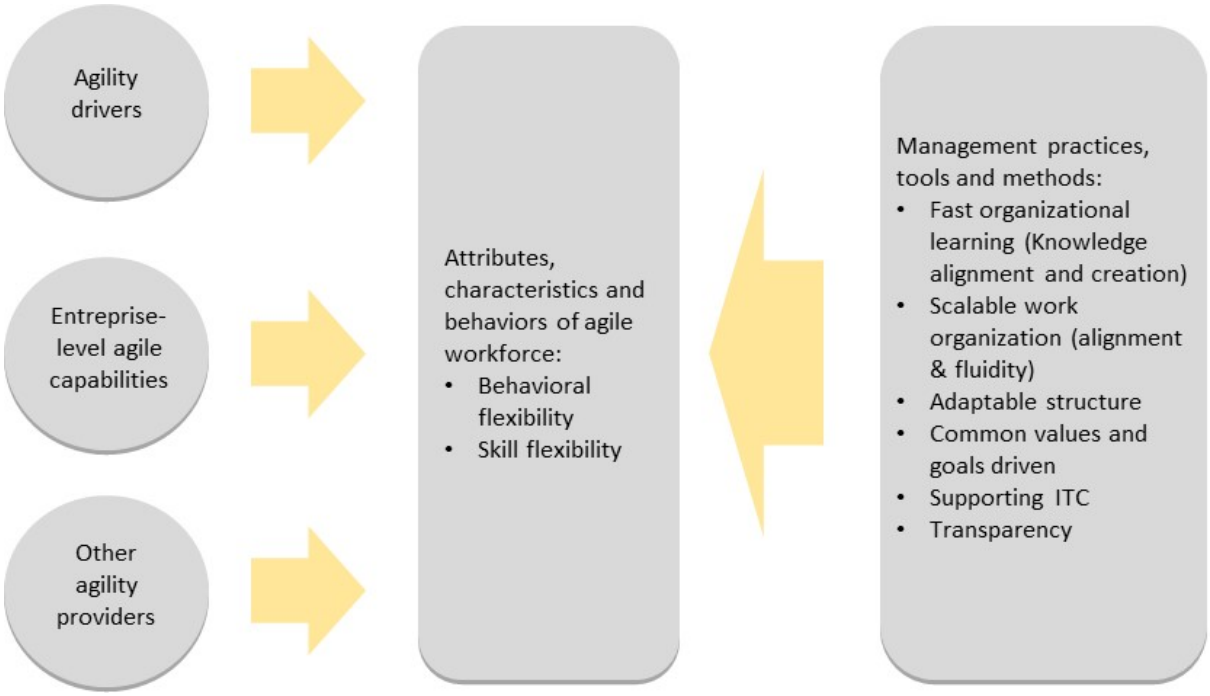
In his review of research on workforce agility, Sherehiy (2007) reports that information, communication, and mobile technologies are found to foster employees' capability for speedy action and operational flexibility. These technologies provide access to customer, accounting, business performance and management information which helps employees to feel more informative and thus show promptness for flexibility and collaboration. Similarly, Schultz (2014) recommends creating user-friendly management information systems that would convey, for example, administrative data related to finance, marketing, production, and other operations that are transmitted to all levels in the organization for decision making. Every employee should have the same access to the same information so that anyone can draw similar conclusions based on the available evidence (Schultz, 2014).

Contradictory to Schultz's and Sherehiy (2007) findings, Breu *et al*. (2002) investigated how the adoption of information and communication technologies (ICTs) influences workforce agility and finds that there is a weak relationship between workforce agility and such organizational practices as ICTs adoption and the availability of information systems (IS) that offer consistent and accurate information to employees. Nevertheless, they report that the adoption of novel ways of working namely virtual teams within an organization and across organizations and communities of practices had a strong positive relationship on workforce agility.

2.6 Framework for Organizational Adoption of Agile Enterprise

In this chapter, the theoretical framework of this study is presented. The different theories and findings discussed in the literature review are brought together to form a theoretical framework for the forthcoming empirical research. The theoretical framework is presented in Figure 1. and it shows the main interrelated elements of workforce agility.

This study suggests that creating and promoting an agile workforce is an integral part of creating an agile organization. Companies should consider the factors presented in the framework to achieve enterprise agility. Agility drivers, enterprise-level agile capabilities, other agility providers and management practices, tools and methods affect the attributes, characteristics and behaviors of agile workforce. As a result, all the elements of enterprise agility are holistically considered and the change has a better chance of being accepted by internal stakeholders.



3 Methodology

In this chapter, I will describe the qualitative methods used for obtaining the research data. The data gathered for this case study consists of 8 thematic interviews in three case companies and information collected from company websites, blogs and other media. First, I will justify my decision to use qualitative research method. Second, I will describe the case study approach, since the study was conducted studying three case companies. Second, I will present sample and the methodology used for gathering primary data, which is semi-structured interviews with open-ended questions. Thirdly, I will discuss the analysis process. Lastly, the validity and credibility of interviews as a qualitative research methodology are evaluated.

3.1 Methodology and Approach

My thesis employs qualitative research methods with empirical approach doing semi-structured interviews in case study companies and conceptual approach using previous academic research. My research follows a structure typical for qualitative research and consists of review of previous research and theories; empirical research, which is mainly text-based data material; and my own analysis and reflections (Töttö, 2004). The presentation of findings does not follow strict formal structure, but include narrative descriptions and even some more creative solutions of presentation, as suggested by Töttö (2004).

I find that the qualitative research methodology is most appropriate for my research, since I am not trying to solve a cause-consequence relationship among different variables, find explanation nor test hypothesis, which are recognized as the interests of qualitative research (Saaranen & Puusniekka, 2009; Eriksson & Kovalainen, 2008). The goal of the research is to explore and describe a complex phenomenon. Approaching the studied phenomenon from different perspectives with well-planned and implemented qualitative research methods, versatile information can be captured and knowledge about the characteristics and nature of the studied phenomenon can be increased (Saaranen & Puusniekka, 2009). However, it must be mentioned that all research always stays at superficial level of understanding and research can never in full deepness and totality describe or understand a phenomenon (Töttö, 2004).

Moreover, the phenomenon of developing an agile workforce is rather new phenomenon in large previously traditional organizations in Finland (Honkonen, 2015). Consequently, the study is exploratory by nature and aims to increase familiarity of the phenomenon in the Finnish context. Thus qualitative research method was selected as a research method as

suggested by Ghauri and Gronhaug (2002). It has been recognized that: "Qualitative research is particularly relevant when prior insights about a phenomenon under scrutiny are modest, implying that qualitative research tends to be exploratory and flexible because of 'unstructured' problems (due to modest insights)" (Ghauri & Gronhaug as cited in Eriksson and Kovalainen, 2008). My research is also interested in individual companies' experiences about the corporate agility, thus I have relatively small sets of data, which is typical for qualitative research (Saaranen & Puusniekka, 2009). Accordingly, my research method, collection and analysis of data is interested in deep understanding of the context for gaining a holistic understanding of the phenomenon. In their book, Eriksson and Kovalainen recognize that these interests typical for qualitative research, whereas qualitative research "is more prone to structured, standardized, and abstracted modes of collecting and analyzing empirical data" (2008).

3.2 Case Study Research

The qualitative research was conducted studying case companies, which will help me to explore and investigate practical uses of the theories I have studied in the literature review. The Yin's (2009) and Koskinen et al. (2005) instructions of a case study research were utilized in conducting the study. Case study method was selected, because the research question is a "how" type of question that focuses on a contemporary event, which according to Yin is best answered with case studies (2009). Yin defines a case study as an in-depth empirical investigation of a contemporary phenomenon in real-life context and especially useful when the phenomenon or context has ambiguous boundaries (2009). Schramm defines the essence of case studies: "it tries to illuminate a decision or set of decisions; why they were taken, how they were implemented, and with what results." (as cited in Yin 2009, p 17), which rather well also describes the purpose of my study. Consequently, case study method was selected to provide me with information about company-specific experiences, used processes and decisions in workforce agility transformation process and help me to more holistically describe the phenomenon of workforce agility that has been so vaguely described in previous literature.

Due to the explanatory nature of the study, three case companies have been selected for the study. The study tries to derive more general conclusion from the cases and act as a basis for formulating more specific research questions. Case studies are categorized into single-case studies and multiple or collective case studies (Yin, 2009). The correct amount of cases is a debated topic in the research literature. According to Yin (2009), single-case study is

preferred in situations were the theory can be well formulated and predetermined or the case is a very extreme or unique incidence. However, Yin (2009) argues that if the researcher has the resources and time multiple cases should be preferred. In general, choosing between single and multiple case studies means tradeoff between replication and richness of description (Koskinen et al., 2005). I compered the insights about agile workforce between three different companies, thus also multi-case study is more suitable.

Stoecker (cited in Eriksson & Kovalainen, 2008) distinguishes intensive (classic) and extensive case study research. The key difference is that intensive research aims at finding out as much as possible from a small number of cases, while the extensive design aims at finding out common patterns and properties across cases. Intensive case study focuses on the uniqueness of few or single cases and tries to understand and clarify a multifaceted and rich phenomenon through thick verbalized interpretation. Intensive case study mainly aims to tell a narrative or 'story worth telling' of the researchers or business actors involved in the study interpretation and understanding of the phenomenon or event (Dyer and Wilkin as cited in Eriksson & Kovalainen, 2008) to engage the reader to learn and take action. Extensive research typically studies and comperes several study cases in a chosen context, which are seen as an instrument for exploring some more specific phenomena or developing generalizable theoretical proposals that could be tested and generalized to other business contexts or to theory. Consequently, in extensive studies, the main interest is not investigating unique case but investigating, elaborating and explaining a phenomenon. (Eriksson & Kovalainen, 2008)

My research is an extensive case study research. Even though, the aim of my research is to understand the experiences of individual companies (cases) quite thoroughly and interpreting them (intensive case study approach), the research also aims at comparing the findings and detect similar or contradicting patterns based on existing research on agile enterprises and the experiences of the four cases to develop a new theoretical constructs that helps to describe, clarify, and explain the dynamics of the elements of agile enterprise (extensive case study approach). Thus the research resembles more extensive case study, accordingly to the definitions by Eriksson and Kovalainen (2008).

3.3 Sample

According to the literature, the concept of agility first became popular in manufacturing in 1990s (Bottani, 2010). After introduction in manufacturing, the concept of agility was

extended to whole enterprise-wide strategy or capability to cope with unpredictability (Muduli, 2013; Huang, 1999; Goldman & Nagel, 1993). Agile software development methods have become widely recognized and are becoming the predominant way for successful software development in organizations in Finland (Salo, 2007). Yet, there is no mention of research on agility on enterprise level in Finland, except for an intensive study of Nokia Corporation (Doz & Kosonen, 2008). However, enterprise agility has also started to interest companies and companies are taking action in Finland, according to articles in newspapers or popular magazines, companies' websites and other media and my own discussions with different company leaders. Consequently, in Finland, there are not many examples of large companies in other industries other than IT, which have started to boldly transform from a more mechanistic or traditional ways of organizing to agile ways of organizing.

Consequently, the selected case companies, OP, DNA and Alma Media, can be said to be rather unique cases in the sense that they are one of the few non-IT companies in the transformation process towards enterprise agility in Finland and thus they were selected for the study based on the rather pragmatic considerations, such as access and feasibility. A representative from Alma Media was met in a seminar called Agile HR: disruptive ways of organizing, where I heard about their experiences. Also, OP was found via seminar related to agility and digitalization, where OP was presented their agile practices. Further, I found more information about agile transformation processes of OP, Alma Media, Vincit and DNA through different blogs and articles written by the company managers. The case companies' managers were then contacted via email.

There are indications in the previous research that the practical adoption of agility varies from firm to firm, depending on company size, market and other characteristics and circumstances (Bottani, 2010; Zhang & Sharifi, 2007; Min & Galle, 2001). Consequently, the research will explore the adoption of agile management in three different organizations in finance, telecom, and media industries in Finland and this way provide some insights whether any significant differences emerge among companies operating in different industry fields. The selected case companies are DNA, OP, and Alma Media. More information about the companies in presented in section 3.1.

However, the actual cases of the study are the decisions and organizational change processes of the different companies. These cases were studied to detect if there are any variations of

the definitions and development of workforce agility depending on the company context. The cases were expected to be typical and representative cases and most likely illuminate the research questions. Yet, it was to be solved whether there is replication in the way the managers in different companies and context have experienced the development of agile workforce or whether they are unique cases.

The different cases were studied through interviews with managers that have been in a superior decision-making position and responsible for the change process, and managers or employees that have participated the implementation of the change process. Also, a HR specialist from Vincit was interviewed for her expertise. The interviewees were chosen, because they know the most about and have experienced the agile workforce phenomenon in the company, which will increase the validity of results. I will be exploring the motivations, elements, decisions and practices in agile workforce transformation and how these elements interact at higher level to understand the phenomena of agile enterprise and workforce better. Thus, the managers in decision-making position were the main sources of information about companies' high-level decisions and experiences. Lower level employees and managers were interviewed to validate those results and understand what they have been told and how things are in practice. Consequently, the selection of the interviewees was deliberate and appropriate for the study, as recommended by Tuomi & Sarajärvi (as cited in Saaranen & Puusniekka, 2009)

Here is a list of the interviewees by case company:

- DNA: Jari Jokiaho, Head of Projects, and project manager Merja Kettunen
- OP: Ylisassi Paula, Business Development Manager and Juho Jäälinoja project manager at the IT department
- Alma Media: Head of HR Virpi Juvonen, HR specialist Jaana Kortelainen, Head of media sales Juuso Liljeroos at Aamulehti (Alma Media's branch)
- Vincit: Mira Ylén, HR specialist (substitute for the head of people operations, who is on maternity leave)

3.4 Data Collection

The data for the study was collected from multiple sources to gain a holistic picture of the phenomenon in different companies, crosscheck information and increase the validity of the case study research. Yin (2003) also suggests that good case study should aim to use multiple

sources of evidence. Previous academic research, dissertations, as well as other literature are used as secondary data in the literature review and the empirical data is gathered from semi-structured interviews and other data sources. Hirsjärvi and Hurme book (2006) about research interviews will used to ensure that the data collection is systematic, thorough, and auditable.

Interviewing was chosen as a research method for the research questions, because the topic is fairly unknown in the Finnish context. Yin (2003) also sees interviews one of the most important source of information in case study research. According to Hirsjärvi and Hurme (2006), interviews help researcher to clarify and deepen responses, gain descriptive examples and explore the topic holistically as in interview allows more flexibility in reacting to the interviewees' responses on the spot than other research methods. The interviews were semi-structured interviews and consist of open-ended questions, allowing the respondent to answer in his or her own words. Open-ended questions were used, since they are good for exploratory research, especially when some alternative answers are unknown as in my case (Hirsjärvi & Hurme, 2006). Open-ended questions allowed me to direct the interviews towards pre-selected themes without overly directing the interview replies (Hirsjärvi & Hurme, 2006). On the other hand, according to Saaranen and Puusniekka (2009), in semi-structured interviews, the interviewees are asked mostly the same questions and not given too much freedom in responding, thus semi-structured interviews are beneficial in situations where information is wanted about certain topics. Consequently, having certain level of structure allowed me to compere the findings across different case companies, but also explore new unknown topics that may arise from the interviews.

The interviews were done between May and June of 2015. According to Hirsjärvi and Hurme's guidelines for interviews (2006), the interviewees were asked to find a comfortable and quiet place for the interviews, so that the interviews wouldn't be interrupted and to avoid any other disturbances that might influence the results. Consequently, the interviews were carried out in the companies' negotiations rooms. Most of the interviews were carried out face-to-face, but the two interviews with OP and one with DNA were done via phone, because OP's office is located in Oulu and due to low availability of the interviewee at DNA. The interviews lasted from one to 1,5 hours. The interviewer made short notes and recorded the interviews. The interviews were listened and transcribed by the interviewer, which were carried out in Finnish. Yet, the quotes that were mentioned in the findings and discussion were translated to English.

A preliminary set of questions were sent to the interviewees before the interviews to save time and increase relevancy of the responses, as interviewees gained better idea what the interview is about through the preliminary questions and more easily recall most important things during the interview. However, the whole set of questions was not sent to ensure that responses to the questions will be given without too thorough planning and to ensure some discussion around different topics.

Other data source about the case companies and their agile workforce were also collected and used. Other material was found mainly through public internet searches, but the case companies were also asked for previous researches or other reports about their agile change process. For example, a master thesis done on Vincit with a detailed ethnographic description of typical workday of a project team was also be used for the data analysis of this study. Other data sources included company website and public reports (e.g. information about the company mission and values), seminar notes and articles and blogs written by companies' employees. Analysis

The material used for the analysis consisted transcribed interviews, interview notes and other textual material mentioned in the previous chapter. The instructions for research data analysis by Saaranen and Puusniekka (2009) and generic steps for data analysis suggested by Creswell (2003) were used for the research. Saaranen and Puusniekka say that the analysis of the research is greatly influenced by the research approach (2009). Due to my research questions and epistemological approach, the focus of the research was the content of the data material not the expressions or language and the empirical data is treated and analyzed as a direct representation of reality (Saaranen & Puusniekka, 2009). In analyzing interviews, responses were seen just as responses and the meaning behind what was said was not paid attention to, as directed by Saaranen and Puusniekka in positivist research (2009).

The preliminary analysis started already during interviewing, listening and transcribing when the first insights arise while working with the research material. The data analysis started by analyzing one interview at the time and other textual material by highlighting the main insights that arose in the interviews to gain general sense of information and reflect on its overall meaning (Creswell, 2003). After this a more systematic coding process started by labeling the units of data into categories of issues based on the pre-selected insights to structure and summarize the large set of data (Creswell, 2003). According to Sekaran and Bougie (2010), coding is a systematic process used in qualitative studies to reduce, rearrange

and integrate findings to form a theory, thus coding will be used to ensure more systematic analysis. A software called Atlas was used for coding and analysis to ensure systematic approach and thorough analysis of the whole data.

Thematic analysis was chosen as an analysis method for this study. The preliminary coding of the data generated categories that were reordered into themes. The different themes were refined until the final themes are identified. Saaranen and Puusniekka (2009) explain how thematic analysis organizes the large data set into larger themes that are common or deviant across different interviews. Thematic interviews are typical for data-driven research and different quotations from the interviews will be chosen to demonstrate relevancy and content of the selected themes (Saaranen & Puusniekka, 2009). Using coding and thematic analysis the data can be organized in smaller parts and be re-organized into themes so that it will be easier to reflect with own thoughts and academic theory (Saaranen & Puusniekka, 2009).

The last step of the analysis process was interpreting the data and especially in my research compering the findings between the case companies. Yin (2003) lists several strategies that can be used for data analysis in case study research. He suggests to analyze the data based on pre-proposition based on research questions or literature review that will help to focus on certain data and ignore the rest. The results of the different case studies were also compared for pattern-matching and cross-case synthesis, which will increase the internal validity of the research (Yin, 2003). The cases were also analyzed to build explanation about the cases and phenomenon, which is typical for data analysis in explanatory studies, according to Yin (2003). However, Creswell (2003) reminds that in qualitative research reliability and generalization don't play major role, but the validity of the individual experiences can be seen as a strength in qualitative research due to the trustworthiness, authenticity and creditability of the research.

3.5 Validity and Reliability of the Research

The quality of academic research is typically evaluated based on validity and reliability. Validity evaluates how well the conclusion of the research are drawn from the accurate description or explanation of what happened, and reliability refers to the results repeatability of different trials (Kovalainen and Eriksson 2008). The validity of the research is evaluated through examination of the suitability of the interview questions for the interview questions and execution of the interviews. The choice of the interview method and style was explained earlier and proves the suitability of the method. The reliability of the results is evaluated by the systematic and rigorous execution of research and analysis. The planned setup for

interviews was also explained in the earlier chapters and besides that reliability and validity was also assured by carrying out as many interviews as possible face-to-face to guarantee the richness of responses and quality of information. The quality of information may have suffered in phone interviews, due to lack of body language or misunderstanding of sarcasm, for example. In addition to the points about validity mentioned earlier, the validity of the research may have also suffered as the sample size of 8 interviews is relatively small, which limits the ability to generalize the results to a wider population of Finnish firms. Thus, this study needs to be replicated in and extended to other contexts. Also, realizing agility is said to be a long-term and ongoing process (Sambamurthy et al. 2003), thus cross-company research design may have not been sufficient enough to catch the long-term effects and consequences of agile enterprise transformation.

4 Findings

4.1 Company backgrounds

Three study case companies were selected; DNA, OP and Alma Media. The background of these companies as drivers for agility, benefits followed from pursuing agility and degree of agility estimated by interviews are briefly discussed in this chapter. An HR specialist from the IT company Vincit, was also interviewed for the study. The Vincit company background is also briefly discussed.

After its foundation in 2001, DNA grew through several acquisitions and partnerships from a mobile communication operator into a major telecommunications company. On their website, DNA describes that the company is facing high competition; increasing traffic volumes, new device applications and major technological changes which is causing the company to undergo large-scale changes. Cost-effectiveness, leanness, agility and innovation are recognized by DNA as the cornerstones of succeeding in the new changing market (Changing Business Environment, n.d.; Stable Growth, n.d.) According to the interviewees, DNA started pursuing more agile ways of operating due to the pressures in the market for faster reaction times and a continuing change process. DNA has applied widespread agile methods and elements to their projects and processes without any strict adherence to any particular method (e.g scrum, lean, etc.). However, they have seen great benefits and improvements with agile processes; however, they have also recognized that more traditional or sequential waterfall ways of managing projects may be better in certain circumstances.

For over 110 years, OP Financial Group has provided banking, non-life insurance, and wealth management services to private customers and corporations. Today, it is Finland's largest financial services group and consists of 181 independent member cooperative banks (OP Financial Group in Brief, n.d). In 2011, OP-Pohjola started updating their strategy to build an agile organization to react to the changes in their environment better (Strategy, n.d.). Interviewees at OP stressed the requirement for more customer centricity, reacting to ever changing customer needs and creating value to customers as the main driver for agility. Digitalization was mentioned as a major factor that changes the financial industry rapidly that greatly influences the competitive arena. Examples of this are the new service offers that disrupt the industry, such as Google and Apple, who offer services targeted to more specific customer needs, e.g. mobile payment. This affects the status of older institutionalized banks that have been offering static services for hundreds of years. The interviewees described that

OP recognizes the great importance of agility and has taken the first steps toward enterprise agility. Currently, the change process emphasizing agile methods and processes and agility was found to be rather superficial and not yet fully internalized within the culture and organization. The organization is still rather divided between very agile projects and more traditionally ran waterfall projects.

Alma Media is a media company of 3,000 employees and its main market is in Finland. Alma Media is strongly influenced by the increasing digitalization and decreasing interest in printed and paid media, thus from 2008 on, Alma Media has driven strong structural changes in its organizations to develop digital offerings and services successfully now and in the future (Toimitusjohtajan Haastattelu, n.d.). Similarly, Alma Media recognizes that digitalization has resulted in great changes in the competitive arena. Traditional media companies now compete with Facebook, Google, and millions of smaller startups, which especially significantly impact media and advertising sales. Consequently, media companies are expected to respond more quickly and proactively to create new products and business models readily. Digitalization also changes consumer behavior and reading habits and offers a great deal of new channels for sharing news and information, such as mobile, tablet and Twitter that are operated at a much faster pace. This requires a great deal of agility from editorial production, product development and sales. Traditionally, editorial production can be seen as rather agile, since newspapers are developed almost from scratch every day, which requires empowerment of lower level employees. Yet, Alma Media recognizes that changes in their current operating environment requires agility at a whole new level. The head of HR in Alma Media reports that the company has gone through major changes while pursuing agility, however due to the large size and long history of the company, there is still long way to go. Agility seems to be divided between different operations; Alma Media is very agile in product development but falls behind in new business model development, according to the head of media sales of Aamulehti.

Vincit is an IT software company that provides agile professional services for software development, according to its website. It has over 100 employees in Tampere, Finland. It was chosen as the winner of a Great Place to Work in 2014 and 2015 study and “Company of the year 2013″ by Kauppalehti and OP-Pohjola (Ohjelmistokehityksen Asiantuntija. n.d.). Vincit Oy was recognized by Deloitte as one of the fastest growing companies in Finland (as cited in Parempi Työelämä, n.d.). The company was founded based on agile principles. Vincit’s

founders wanted the company to be guided by employees' knowledge, actions and interests. Agility has always been natural a part of the culture and operations at Vincit, not a separate management model or philosophy.

All companies reported similar benefits related to the workforce that has followed on from adopting more agile ways of operating:

- motivates employees significantly as they see more concrete and value-added results of their work faster
- empowerment makes their daily work feel more meaningful
- removes silos and increases cooperation across units
- teams become closer and more committed to each member and the team as a whole which results in increased productivity and work satisfaction
- increased innovation and learning through shared information and cooperation
- established prior to bureaucracy which can frustrate employees and lower the spirit
- overall, the adoption of agile methods has been reported to increase work satisfaction in company-wide surveys

4.2 Definition of Agility

In the study, agility was defined as a useful tool for rationalizing operations and processes, increasing productivity, reacting and recognizing customer needs, faster reactions to changes in the environment and to support continual development of company processes.

Across companies, enterprise agility was seen especially useful for rationalizing operations and processes and finding the so-called "smartest way of doing things." Business constantly requires shorter releases and faster results; consequently, case companies must focus on completing and prioritizing the most meaningful and value-added work first. At DNA, they also emphasized that agility does not mean acting according to pre-defined agile methods, but acting according to different circumstances and finding the most efficient way of working in this way. It was agreed by all three case companies that agile organizations aim to remove all unnecessary operations and bureaucracy that frustrates employees and decreases reaction times and try to find simpler and more straightforward ways of doing things.

The head of projects in DNA finds that agile practices makes managing complex projects and larger bodies of undertakings easier, and this is one of the main reasons they pursue agility. All case companies found that splitting larger projects into smaller projects decreases time

and budget risks. This was recognized at DNA before they began started planning large undertakings which resulted in large amounts of time in planning and increased risks. When carrying out these larger projects, quality assurance and testing was postponed to the final stage which significantly decreased customer satisfaction regarding project results. Avoiding unnecessary work by evading heavy planning is pursued by all of the case companies. Agility has brought faster iterations meaning repeating a process with the aim of approaching a desired goal and splitting project into smaller iterations to create more concrete results faster and create a more transparent process. Consequently, agility is important in assuring that corresponding benefits are created for investments. At OP, it was said that:

"The number one driver for enterprise agility for faster release by was splitting projects and work into smaller pieces and crystallizing the most important and value-adding activities and results from which customers benefit the most."

The head of Aamulehti's media sales also agrees:
"In summary, agility is about doing the right things and doing them fast."

Besides rationalizing operations, customer orientation was emphasized as an important element of agile enterprise by all case companies. Customers today require more personalized products and services at a faster rate and also their consuming habits change very radically and are more diverse. Agile organizations need to collect information and be aware of customer wants and needs at all times. It was stressed by all case company interviewees that the customer has to be at the center of all things at all times. In agile organizations, customer orientation is already considered in the pre-planning phase, where potential customers or users are involved in the brainstorming process. Product development or projects must start with discussions with the customer about what the customer needs, what basic problem that we are trying to solve, how we can solve it and how can we bring address and advance this issue. All companies also mentioned that testing should not only be done in many iterations, but also that customers should be involved in the early states. As the Business Development Manager at OP puts it:

"The thing worth mentioning is making prototypes. As was said earlier, the less time invested in planning is better for customer added-value. It is important that we start testing and validating our hypothesis with customers early through interviews, building prototypes, demos or just discussing problem situations with customers. This way, we know are we

solving the right problem or addressing whether the customer needs are something completely different that we thought them to be."

The third element of enterprise agility that was emphasized by all case companies was the capability to react quickly. All three case companies have realized that they operate in a constantly changing environment which requires the ability to react and adapt quickly but also proactive capabilities to actively search for new possibilities. For example, at Alma Media they have experienced how even seemingly a minor change in the market can change the whole operation, management practices and organization of a business unit and how these changes are adapted very fast in the market. In the media industry, before companies had 24-hour deadline for producing a newspaper, now with mobile technology, tablet and social media as new the distribution channels, every second matters. As the head of human resources at Alma Media puts it:

"Online, if you are even 10 seconds late, you lose a certain game advantage in release order of news. Consequently, it is very time-sensitive."

Acting quickly requires that employees are empowered and decision-making is faster. Relatedly, increasing reaction time is tied to rationalizing processes. When iterating, project managers decide how to proceed and what to do one sprint at a time without planning beforehand. Moreover, an important aspect of fast reacting is to test and execute fast. Consequently, all case companies stressed that employees need to have to the right resources and be encouraged to constantly produce new ideas, test them fast and execute them fast if necessary. The head of media sales of Aamulehti summarizes it well:

"Agile companies must have this scale fast-fail fast mentality meaning ability to kill good ideas that won't fly and systematically monitoring them. This is the number one way to build new businesses, products and other things for consumers or company clients."

The head of development projects at DNA agrees and continues:

"Development has to be thought of as a continuum where ideas and initiatives are constantly killed and where the fact that it is okay to fail even often is accepted. "

All three case companies are in a transformation phase and as mentioned, have achieved agility at different levels. Mostly, agility is achieved at the project level but there are also company-wide initiatives and actions in all three companies, which are discussed in later chapters. The level of agility in the organizations is said to vary a lot. Some departments are

very flat and agile, while others are more hierarchical and traditionally led. It was also recognized by DNA and OP that the agile way is not always the best way to organize rather the management model should be situation specific. In all case companies, pursuing agility meant balancing between traditional ways and agile of doing things. This will be discussed in later chapters.

The characteristics and tools for agility also seem to vary between agile projects. However, rationalizing operations, customer orientation and ability to react quickly are the key elements of enterprise agility that were pursued and prevalent in all case companies.

4.3 Definition of Workforce Agility

In the following chapter, the findings about how the companies understand the concept of workforce agility and what capabilities they want to build in their workforce will be discussed. Also, findings about what the companies find most critical and challenging will also be discussed. The following findings summarized:

Cross-functional and organizational cooperation and communication skills	Vast perspective and expertise
Change embracing attitude, courage and reactivity	Customer orientation
Internal motivation and passion	Flexibility
Self-sufficiency and responsibility	

Cross-functional and organizational cooperation and communication skills

Interviewees were asked to describe an agile employee or team and the new demands for the working conditions that support an agile way of working. All interviewees emphasized the meaning of cooperation among team members, across functions and with external partners. Cooperative abilities and conditions for cross-functional cooperation were mentioned as significant positive factors promoting and enabling enterprise agility by all interviewees and mentioned several times during interviews. According to the interviewees, cooperation

enables sharing of information, innovation, efficient use of resources "having the right people at the right place at the right time" and quicker reaction times.

All members of agile teams need to have good communication skills, and be able to actively solve issues and discuss matters with members of business units, teams and developers. Also, communication skills are also needed when working with and trying to understand customers. In agile enterprises, it is important that both informal and formal communication is seamless regardless of different statuses or departments. At Alma Media, they said that they were actively trying to create a discussion culture, where employees would feel free and excited to share their thoughts. Consequently, employees should not feel restricted to their own department or status level, but actively look for experts to partner up with inside and outside the organization and then jointly discover how they should proceed.

Requirements for cooperation can also be seen when recruiting team leaders. The head of development projects at DNA mainly recruits project managers and scrum masters to lead teams and he emphasizes that, "*This person's job is to make the team function well. Facilitative skills are what I look for and they are very important. The leader must be able to make team members give more from themselves to the team and also to develop their surroundings meaning those processes where work is done.*"

The requirement for good communication and cooperation skills seems to be related to the very tight-knit way of working in agile enterprises and projects, as the head of development project at DNA says,

"*Agile teams are a lot more tight-knit than traditional teams. At least I have noticed that there is a lot more handling with personal issues between people, authority battles or role seeking in a little more rambunctious way than in traditional project teams which are not so uniform. But then again, that is just part of the teaming up process.*"

The demand for more close-knit cooperation between business and IT units was also brought up by three interviewees. As project manager from OP puts it:

"Today, developers and designers communicate a lot more, continuously and directly with members of business units and cooperation is a lot closer. Face-to-face communication rather than via sending documents and such is preferred and has increased significantly."

HR Consultant from Vincit also says that as the agile teams work more tightly together, demand for cooperation skills also increases and the traditional role of the developer changes:

"Many people think that developers just sit alone quietly with their computers, but that is not the whole truth about how much communication is required in that job. Developers need to be in constant contact with the customer, business units and other members and have several meetings to discuss what they have done, how things have been and how issues can be solved. This does happen via digital channels too, but face-to-face meetings are important".

However, it is also emphasized that agility does not require extremely extroverted people, but does require that people don't seclude oneself but are in contact with others.

Change embracing attitude, courage and reactivity

All interviewees mentioned a positive attitude towards change as an important characteristic of an agile workforce. According to project manager from OP, an agile employee needs, "*Sensitivity to change and an ability to react quickly. Direction can change fast and radically. An agile employee must accept that we will not do the same thing for two years but things change and you must adapt to that.*" Agile employees need to be resilient and excited about change and staying on board. Change has to be seen as an opportunity not a threat:

"In agile teams, there cannot be yearning for stabile periods when the organization would settle down to do one thing. This kind of thinking is the enemy of agility. Employees should instead have their antennas on at all times, and yearn for change if things start to settle down. A team that has this characteristic wants to improve all the time and eagerly follows what happens in the environment and thus has the readiness and interest to react quickly." – Head of HR at Alma

This also relates to the attitude towards learning. A HR specialist from Alma Media says that an employee's attitude is very important: how employees react to the fact that they need to be learning new things continually and whether they are excited to learn new things or do they see it as a threat. Moreover, employees need courage to try, fail and then bounce back again.

Agile employees must have courage to give healthy criticism and challenges if the company or project is performing well. According to the head of media sales of Aamulehti, agile employees need to know how to question, argue for their own view and also accept decisions made even if they go against their wishes. Questioning should occur everywhere and at all levels, from employee to CEO. Also, agile employees understand that if there are some general rules, they should not to be strictly followed every time but can be applied if

necessary. The ability and courage to question was recognized as an important characteristic of agile employees by six interviewees.

Agile employees also need courage to try new agile methods and ways of doing things. The most significant improvements in working methods did not require large investments, but have arrived when people have been open-minded and willing to try out new ideas, according to Business Development Manager from OP.

Internal motivation and passion

The head of HR at Alma Media, the head of media sales at Aamulehti, the head of development projects at DNA, both interviewees at OP and especially the HR specialist at Vincit stressed that agile employees must have a passion for what they do and be driven by internal motivation. As project manager from OP puts it:

"Agility is not for those people who go to work to get a salary every month but for those people who want to have and look for meaningful work. For the kind of person that agility is suitable. Some people don't care about meaningfulness and in those cases, adopting and performing agility can be challenging."

It is the passion that drives people to self-sufficiency, increases proactivity and makes them eager to learn and improve themselves and their surroundings. The head of development projects at DNA also sees that as people give 100% to their work, they also become more interested in what other people are doing and more eager to cooperate with them:

"When people are driven by inner motivation, the work is not planned in the way that you do this first then I do this, this is my corner and this is yours" – The head of development projects at DNA

Self-sufficiency and responsibility

Five interviewees mentioned that agile employees need to be self-sufficient, have initiative and be responsible. It was mentioned that every employee knows and can make the best decisions in their field of expertise. An agile employee needs to understand that they are in charge and responsible fr their work and carry that responsibility beyond the boundaries of their own work. Agile employees are used to and feel comfortable with moving things forward independently and with the help of others if necessary as quick confirmation for their own decisions. Consequently, they don't leave things half away or expect their supervisors or

others to make necessary changes. Interviewees at Alma Media especially stressed that in their organization, the fact that everybody is responsible for their work and development is promoted as a large theme in the company. Self-sufficiency and quality is based on this kind of responsible mentality.

Self-sufficiency also sets a requirement for the management to trust their subordinates to do their job in the best possible way and give them responsibility:

"*Top management needs to have trust in people that if they are given the responsibility and authority, they are doing the right things in the right way. Yet, too often, managers want to control and monitor too tightly, then employees feel too insecure to act the way they believe is the best. There are some product owners who want to participate in everything and thus don't want to empower. This can be due to fear of losing status or just uncertainty of delegating.*"

Vast perspective and expertise

Turbulent environments and increasing complexity set new requirements for knowledge and expertise at a new level. As products get more complex, customer requirements more specific and personalized and industry boundaries get more ambiguous, agility seems to set different requirements for skills, knowledge and expertise in increasing amounts. Consequently, good expertise was seen as enabling not just as a supporting factor of agility by three interviewees. Also, agile teams should look at things from a vast perspective and consist of members with different interests and expertise. This way teams can make decisions both independently and work closely. Also, as leaders, with trust in employees or outsiders' expertise, companies can adopt new ways of doing things. Consequently, expertise supports self-sufficiency. For example, project manager from DNA says,

"Our supplier was extremely excited about the new agile methods and had had good experiences with them. They were so excited about agility and as we had high expectations for quality, we decided to try out these new methods. Consequently, it was knowledge, experience and excitement that pushed forward adopting these new methods."

Gaining experience and knowledge is an enabling factor for empowerment and flat organizations, since as HR specialist from Vincit argues,

"Everybody is very qualified in their work. You can have anyone as your teammate and you know that they know their stuff. This is also a prerequisite for flat organization, since then, people are in a way at the same level."

However, employees also need to share their knowledge and information with each other and be able to test in practice the knowledge and expertise they gain by sharing.

Six interviewees from all case companies said that an agile employee needs to understand the bigger picture and have a holistic understanding of how his or her job is related to other employees' jobs, departments, projects or the company as a whole. Thus, agile employees need to see the benefit for the whole company and understand that his or her job is not necessarily the most important thing. This is important as project work is now much more tight-knit and cross-functional cooperation is required for innovation and customized products.

Customer orientation

Out of the three case companies, OP emphasized how better customer orientation is really the base, and the main motivation and starting point for enterprise agility. Customer orientation was also seen as major part of enterprise agility by interviewees at Alma Media and HR specialist from Vincit. Basically, having a customer-oriented view is critical, since having a satisfied customer ultimately is the only thing that counts.

As Business Development Manager from OP writes in her blog, "*The model for agile development forces is to put customer in the center, because the whole product development process is based on validating the hypothesis and as quick as possible, product and marketing testing. This way as little as possible is invested in development that does not have market potential."*

Agile employees don't get overexcited about technological matters but look at issues from a customer's point of view. These kinds of employees constantly think how can they create more value to customers and find ways to cooperate with customers to figure it out.

Flexibility and focus

In agile projects, team members are mixed with new people that haven't worked with each other before and parts of the project are carried out in intensive sprints. This requires flexibility from employees, clearing calendars if necessary and new ways of working overall.

Consequently, Business Development Manager from OP also stressed that agility requires flexibility and commitment from employees to adapt to new circumstances.

Moreover, it was mentioned by three interviewees that it is extremely important for the agile nature of working that employees can focus on one project or task at a time. The head of development projects at DNA also says,

"I think it is important that employees can do the thing that he or she was hired to do as much as possible. Meaning he or she should not be burdened with many different projects and tasks but he or she can become familiar with a current issue with the team she or he is working with. This way the formation of the team can truly happen."

This in turn sets a requirement for resourcing and clear prioritization for the top management.

4.4 Management Practices, Tools and Methods

The most widely mentioned were practices, tools and methods related to information sharing and transparency, cooperation, leadership power-sharing and self-sufficiency, training, working conditions, making initiatives and continuous development of agile management model.

Change management

It seems that in all case companies, the need for agile ways of performance came from the organization. In all companies, those who engaged in smaller trials, where they applied agile methods in small projects, turned out as successful. These results were then used as successful examples to excite and apply the methods in the rest of the organization. For example, three years ago, OP established a development department to Oulu, where mobile and digital services were made. Operations at the Oulu office where agile and customer centered. Business Development Manager from OP says,

"*In the Oulu office, new versions and services were developed for customers at rather high speed and I believe that these successful experiences were major factors in developing acceptance in the rest of the organization. The rest of the organization noticed that with agile methods, the product development process was lot more transparent for customers and more effective. People got excited and asked what we were doing and what models we were using. Consequently, in the beginning I travelled around in the company a lot telling others how were we working. It is not enough that one unit is agile, but agility needs to be part of all tasks*."

Today, the unit in Oulu is not separate unit anymore, but part of the whole product development ecosystem at OP. Similarly, at DNA, they tried out agile methods in a few pilot projects with a more experienced supplier, Reaktor. The positive experiences and reactions encouraged applying agility widely in rest of the organization. After this, they started to aggressively train employees about agility and agile methods. Then it was realized that,

"As people started to learn about agile methods, they realized that these findings can be applied to the more traditional way of working and that it is not necessary to radically change the current way of working at least for now. We can start to have dailys and retros, even though we are not doing longer iterations. This way, agility started to gradually become part of the organization and we didn't adopt any specific framework to guide our actions. We have adopted many elements of agility in our own way. We see that benefits come from doing things smartly and rationalizing operations." –Head of development projects at DNA

At OP, on the other hand, 1,5 years ago, they introduced a company-wide agile framework called SAFe, scaled agile framework. SAFe is an agile framework meant for larger projects and enterprises. In SAFe, they are trying to replace traditional program and undertaking concepts with so-called epics. Epics are based on customer needs and different tools are used to define the services offering to meet these needs. These tools, for example Jira, and kanban boards among other tools, are for managing epics and epic portfolios. Consequently, SAFe guides company and employee actions at a wider level.

The different departments of the media company, Alma Media, has on the other hand started to rather radically change their ways of operating, for example in Iltalehti, Kauppalehti and also Monster, which operates completely online. Employees in media industries, at least in the capital area of Finland, have been rather aware of the effects of digitalization early on, according to the interviewees at Alma Media. At Alma Media, all interviewees recognized that adopting agile ways of working in other parts of Finland in the local newspaper offices was a more challenging task. In these areas, print media was still highly valued in the organizations, thus employee attitudes were hard to change towards digitalization. Thus, Alma Media started a company-wide initiative called "Etukenohanke." So-called safaris and workshops are organized in the whole organization in Etukenohanke. In these safaris, employees are sent to the "field" or among customers to do research on the assignment given by top management. Then, groups of people from different departments think about and solve different business issues in workshops. The head of HR at Alma Media says,

"The assignment can vary in different workshops. In practice, they may have included researching newspaper readers' behavior for a certain period of time. An observation has been that no one reads print anymore or it has decreased radically. For example, via interviews, reporters have realized that only about two persons among their closest acquaintances read print media or news. This is important for reporters, because it means that if they only think about print, they won't reach the bigger masses."

Consequently, through Etukenohanke, employees are involved in the change and it is not merely driven by top management. Also, through employees' own experience, employees wake up to realize the need for digitalization and agility, according to the Head of HR at Alma Media. Their attitude is hard to change, but all interviewees agree that Etunojahanke has helped employees to think about digitalization first before print media.

Information sharing and transparency

The importance of information sharing was mentioned and emphasized as one of the most important practices that support enterprise agility by all interviewees. Different practices related to information sharing and transparency were employed by all companies and recognized as important as they make information available and up-to-date in a large organization. It was also recognized by Business Development Manager from OP that there is a lot of new information created every day and the challenge is to extract the most important aspects. Project manager from DNA also said that information sharing means constant balancing between who is listening and who is working, thus it is important that employees focus on certain project and tasks at a time.

Also, information sharing practices were recognized as important due to dependencies between projects. Information sharing was said to be a continual challenge and under development in all organization. It was recognized by HR specialist from Alma Media that information sharing overall is an important element of the concept of agility: people need to feel at ease when communicating and be familiar with the different tools of information sharing. It was also said that part of the agility channels of communication need to be made simpler, more direct and to delete unnecessary steps. This saves time and increases dialogue between the right people. As mentioned earlier, information sharing and transparency are important for employees to grasp the bigger picture and to have a wider perspective on matters. This was verified by four different interviewees.

There were several practices, tools and methods mentioned by interviewees to enhance communication, information sharing and transparency. Importantly, interviewees emphasized communicating via documents should be avoided and emphasis should be placed on face-to-face communication. At Aamulehti, they tried to deal with as many issues as possible face-to-face instead of via email. Also, a traditional weekly newsletter was found impractical in agile organizations; whereas working in the same space is preferable, according to the head of developmental projects and DNA. The benefits of working in the same space are discussed in later chapters. Similarly, project manager from DNA describes her work more as performing most tasks together constantly rather than just meeting for weekly statuses.

Consequently, many interviewees stressed that information sharing and communication also has to be continuous. At Alma Media, they said that they have a development discussion every year but they try to promote continuous discussions with superiors as things change during the year. As HR specialist at Alma Media, says:

"*It is an old practice from old ages when employees and employers meet twice a year to discuss goals and results, but the discussions also must be continuous and part of employee's daily work*."

Discussion practices at Aamulehti are discussed later in the leadership chapter. Both HR specialist from Vincit and Head of Projects from DNA agreed that so called retrospects or follow-up meetings about the project progress are important during project work and should not only be organized when the project ends. HR specialist from Vincit also says that,

"*The frequency of these meeting is not set in advance. The meetings are highly recommended and projects have them often. But every project team can decide when it is necessary to have them and who should be involved; project team, customer or suppliers. Expediency is important and too much bureaucracy should be avoided*".

Also, three interviewees mentioned that project teams have only a few members, which makes efficient face-to-face communication and information sharing possible. Meetings are also easier to organize when there are only a few members in the team. For example, sales teams at Aamulehti consist of only 4 to 5 members.

All the three organizations used similar technologies to support information sharing, especially, JIRA (for project tracking), confluence (team collaboration software) and different chat applications were in good use.

As Head of Projects at DNA describes:

"*JIRA is actually our project management tool even though it has not meant to be one. We have harnessed the tool for project management. JIRA consist of definition and testing documents. Also, it consists of reporting tools and an extra component called the big picture that is used for managing projects and portfolios. Our reporting in JIRA is not so traditional, but more like writing a blog or log: what we have done, how things are going etc. Then management and other stakeholders can proceed."*

Project manager from OP also mentioned that Wiki style tools are important were tools of the team that can all modify project related documents. In all communication tools, information has to be easily available and have good search functions. Also, physical blackboards in the project space were said to be important and practical tools for information sharing by four interviewees. It is also good to have these boards electronically, since team members are not always in the same place even though it is preferred in all companies. As project manager at OP describes the benefits of using blackboards:

"*Everybody knows where we are and even someone external to the team can quickly grasp the current status and targets of the project*."

All three case companies also used a social media tool called Yammer, which allows employees in companies to create interest or expertise groups were employees can discuss current issues they have. For example, as HR specialist from Alma Media describes:

"*For example, experts at web development exchange news about their own work. This way, we have been able to achieve some cross-department cooperation*."

However, Head of HR from Alma Media points out that employees have limited time for social media and as they are in a media company, they are expected to be active on Twitter and other social media channels, making a profile and being active at a company internal discussion forum can be a lot to ask.

Also, more general meetings between different departments and units in case companies were said to be important tools for company-wide information sharing. Alma Media organizes monthly employee information sessions, where a department comes to talk about a current initiative or project or other current issues. Also, more traditional company newsletters are used, for example, if new products are launched. Then they also have meetings between Yammer expert groups and organize joint seminars with other media companies in Europe.

HR specialist from Vincit also agrees that their monthly employee information meeting is extremely important, where the previous month's financial results and new actions are discussed.

"Financials of the previous month are typically only discussed between top management. But in our company, financials are discussed with everybody so that people know where revenues come from and so forth. This way, employees can take this into account in their own work."

Lastly, as mentioned, small team sizes are important in agile teams. However, Head of Projects from DNA mentioned how their issue is that they need many experts in projects, since, due to several acquisitions, DNA holds several different IT systems, which require deep knowledge. Consequently, DNA have focused on making the overall IT architecture simpler and in this way, decrease the need for very specialized knowledge and make easier comprehension of the bigger picture.

Internal and external cooperation

The importance of different practices that support cooperation among team members, departments, units, customers and suppliers were mentioned several times by all interviewees.

As explained in the previous chapter, cross-functional cooperation is critical in agile organizations and customer orientation demands it. Cross-functional or departmental cooperation is supported with joint meetings, workshops or seminars with different departments. Also, some interviewees mentioned the importance of developing cross-department roles to create a natural connection between units and departments. For example, at Alma Media, they try to have a reporter in every sales department's customer meeting to add perspectives from the production of news and media content. Interviewees at DNA agreed that informal meetings with different departments increased rapidly after moving into the same building. Consequently, a common workspace and virtual teams were emphasized as major enablers of cooperation by almost all interviewees. Alma Media's Etukenohanke and OP's Incubator are the kind of undertakings that bring people together from different business units. As Business Development Manager says about Incubator:

"Now we have this very exciting thing called Kiihdyttämö (" incubator"), where new cross-functional ideas and innovations are tested and turned into prototypes quickly. "

Moreover, it is important that leaders ensure that cooperation between units is as easy as possible. For example, problems have emerged from a conflict of interest due to cost accounting of different business units, thus discussions arise regarding which department or business unit pays for resources. Business Development Manager at OP, also agrees that:

"*Moving away from silos, requires development of financing projects and programs.*"

Interviewees from all case companies also mentioned the importance of cooperating with external partners. When working with suppliers, contracts were recognized as a restrictive factor by interviewees from OP and DNA. The purchase department cannot think that a good contract includes strict terms and sanctions and fixed prices, because this typically leads to a supplier just focusing on executing the contract. This kind of thinking does not fit with an agile world. Head of Projects sees that it has been a challenge to change this kind of mindset at DNA, but:

"*My opinion is that the so-called time-material contract is best for agile development and there are good sections that allow us to change supplier quickly and claims the right to use the product to the ordering party. Then we can decide what we'll do with the competencies and the time of the given resources. Contracting in general is definitely something we have spent a lot time with.*"

Resourcing and organizing

Decisions about resourcing were also seen as important when creating an agile organization. Interviewees at Alma Media said that when recruiting new people, they look for agile characteristics described in previous chapter. At OP, they brought new way of thinking by recruiting new employees with digital expertise but no previous experience of the financial industry. Employees are also encouraged to rotate between roles to gain experience and new knowledge at Vincit, DNA and Alma Media. Job descriptions and roles need to be flexible, employee focus cannot be divided between many projects, team composition must guarantee vast perspectives and varying expertise and employee wishes should be taken into consideration when making resourcing decisions to ensure internal motivation. Part of agility and empowerment is the right to create ad-hoc teams when necessary.

In agile organizations, it is important to prioritize projects and ensure that employee focus cannot be divided between many projects. At DNA, they recognized that burdening experts with too many simultaneous projects prevented agility. Currently, their aim is to have

employees working 100% on one project. If not possible, compromises are made in the following way:

" *We are not always able to allow our employees to have 100% focus on one project, but then we try to compromise so that the days which are entirely dedicated to some project are agreed in advance. For example, if an employee can only work 50 % for some project then it is agreed that the employee will work 2,5 days from Monday to Wednesday noon for the project and work where he or she is physically needed. The employee is free to do other things during the rest of the week. Yet, we are trying to avoid 50 % participation*." -The head of projects at DNA

Also, the importance of having a company's own developers was mentioned by OP and DNA. The importance of in-house developers and their expertise was said to have become more important as the organization becomes more agile. This was recognized at OP and DNA. Business Development Manager from OP says that in agile teams,

"Developers are the core of the whole team and project because they implement everything, enable fast testing and bring concrete results quickly."

At DNA, they also recognized the importance of in-house developers and saw that the lack of in-house developers as a major barrier for becoming more agile. When all the developers come from the supplier, typically two camps are created: experts at DNA and the supplier's developers. As a result, a multi-skilled team is not created and internal knowledge is not developed. Having an internally developing knowledge would enable switching suppliers during projects to expand core teams.

Also, when developers are with the supplier, tacit knowledge does not accumulate internally that could be exploited in subsequent projects. Consequently, DNA is currently recruiting new employees with developing expertise or interest. Business Development Manager also agrees that:

" If you think about an agile team in software development, developers and product experts are a pivotal part of the team. Developers are the core of doing, because they can produce ideas right away so that they can be tested and results quickly discovered. In large organizations, developers are typically seen merely as resources, not as added value-producing individuals but more as a cost item. This kind of thinking distorts the ideology of an agile way of doing things because the team is where the customer understanding lies."

Work conditions and space

A common workspace for projects and different departments working in the same building were two factors that were said to be critical by all the interviewees in creating an agile organization. At DNA, they have a new building called DNA House, which is the headquarters and IT, online development, business units and all the development projects are located there. According to their website, DNA House was built to create a workspace that inspires, is flexible and encourages work in multiform ways (https://www.dna.fi/dna-oy/dna-talo). Before, DNA used to have several offices located around Finland. Head of HR from Alma Media also agrees that transferring all units to same building increased cross-functional cooperation:

"*Informal meetings among employees in different departments have increased radically. Before Kauppalehti was at Esplanadi, Iltalehti was in closed floors at Kluuvi and Alma 360 at Munkkiniemi. Now we are all in the same building, which has makes a difference, since informal meetings are created in a whole new way, e.g. we go to the same lunch cafeteria*."

In all case companies, they aim to have all project teams working in same workspace in an open space office. At OP, the first development units in Oulu only had their teams sitting in same space. However, this was so successful that it was gradually adopted in Helsinki too. Project manager from DNA says that transforming to more a agile organization manifested itself in truly working together at all times instead of just communication through weekly statuses:

"*Before our team used to be separated, but now we are together all the time*"

Sitting in an open office and having common workspaces with Kanban boards and such has been one of the main ways to influence company culture and change it toward a more agile one at OP. It is also important that outsiders such as suppliers who participate in the project are free to enter this space too and work in the same space, according to all case companies. Also, top management shares the open space office in all case companies. Business Development Manager comments about sitting in open-space office:

"*This creates the kind of atmosphere that you can go and talk to anyone anytime if you have something in mind across levels and departments*. "

Similar findings were mentioned by HR specialist from Alma Media, Head of Projects from DNA, head of sales from Aamulehti and project manager and Business Development

Manager from OP. At Aamulehti, employees sit with their teams and superiors sit in the middle so that superiors are close to each other but also close to their teams. This kind of seating order was found to have very positive impact on communication, information sharing and empowerment.

According to the interviewees, offices should have flexible workspaces: quiet rooms for more independent work, temporary work spaces, small meetings rooms for ad-hoc meetings and resting lounges for more informal meetings. It is important to have isolated spaces for temporary projects too. At Alma Media, they have a so-called drop-in zone that has spaces for group working. At DNA, they really tried to influence the culture with project-specific "war rooms". These rooms are reserved for certain projects and have flipcharts, boards and other project tools. At DNA, they have two large projects called Einstein and Hercules and there are two rooms reserved for these projects. The rooms are also decorated according to the project name, for example, they have huge Hercules and Einstein statues to lift the spirit. These spaces are open for every employee so that everybody can be aware of what going on.

Moreover, in agile organizations, it is important to trust in experts; thus monitoring work hours in knowledge or creative work is not appropriate in agile organizations, according to several interviewees. As project manager from OP says:

"*Knowledge or creative work output does not automatically equal your input. Thus it is odd to monitor what time an employee arrives or leaves work. Abandoning these policies contributes to the agile philosophy and culture where employees are trusted and expected to do their best*."

HR specialist and Head of HR from Alma Media and Head of media sales from Aamulehti also say that employees need to have flexibility in work schedules, style and location. This was reported to have positive effects on productivity as well as work satisfaction.

Empowerment and self-sufficiency

As explained earlier, there is still a lot of variance in agility between projects in agility of the case companies, as some are still ran in more traditional way. Here, only more agile projects and experiences within them are discussed.

According to project manager at OP, in agile projects, it is a lot easier to go and talk to supervisors, whereas in more traditionally ran projects; there is too much unnecessary formality. Consequently, a low hierarchy was recognized as important in all case companies

for fast decision-making. According to HR specialist from Alma Media, a low hierarchy can be seen at Alma Media in the fact that they don't have unnecessary levels of hierarchy. In Alma Media, experts are said to take responsibility, thus some management levels are not needed. Also, HR specialist from Alma Media sees that empowerment should be seen in the job description as a right to make certain decisions.

At DNA, company values are used to encourage employees to feel empowered and self-sufficient. DNA's values are courage, straightforwardness and speed, which according to Head of Projects means that:

"*We have a pretty flat organization. Everyone can go and talk to anyone. We want this to happen and try not to mystify or complicate management or the decision-making structure, but we try to be close to the actor and create value. That is DNA's way to operate.*"

However, the head of development projects at DNA recognized that very rarely but sometimes agility and self-sufficiency seems to be an excuse for not planning at all. He also says that:

"*Agility does not mean operating at ad hoc, you still need to follow some kind of predetermined process*."

At Vincit, employees are given the right to decide once a month what the company should acquire or do to increase all employee satisfaction and well-being. The decisions have resulted in a common breakfast at work, a ping pong table, own company branded coffee and tea, weekly joint fitness exercises and healthy snacks, etc. However, the point is that:

" *As these small employee decisions are executed, people feel that they can influence larger matters too. These small things communicate that employees can and are expected to take part in company-wide decisions.*" HR specialist from Vincit.

Interviewees at OP also say that empowerment and self-sufficiency is foreseeable in project work as everything is planned together between the project team, IT and business units.

" *First, IT says what they think is important, then business unit offers their opinion, then a common understanding is created, which is required for the project team's self-sufficiency. Consequently, it is not the project manager, architecture or main designer who says what need to be done and in which order and what the team will be doing in the following two months. But every team member gets to participate*."

However, he also admits that in the end, the one who finances the projects makes decisions on project limits and overall budget, but other than that, this person does not have large role. Business Development Manager from OP also agrees that making all decisions at a steering group greatly inhibits the agile way of working. Both Business Development Manager and Head of Projects at DNA agree that empowerment is very dependent on the manager who initiates the project or the project owner and their view on how the project should be managed. Consequently, how decision-making power is distributed currently seems to be very person specific.

At DNA, when looking at agile teams, teams are said to have great deal of decision making power. Head of Projects has described the decision-making in project work at DNA in the following way. Firstly, projects are initiated and prioritized in an ITC steering group. Then the ICT steering group has short checklists to assure information security, testing, quality, training for customer service and production units, etc. Overall, the ICT steering group only checks that the project is in alignment with strategy and brings value, but they don't participate in planning or making decisions about the content of project. These decisions are entitled to the product owner and team.

Creating motivation and passion

Leaders in the company have to explain why we are doing things and remove obstacles, but it is more important to have jointly-agreed enthusiasm and goals, according to the head of media sales at Aamulehti. Case companies had several different ways to motivate employees. According to Business Development Manager from OP, sitting in an open space office near your colleagues also results in more movement and people participation and consequently, increased motivation and enthusiasm about work. At OP and Aamulehti, interviewees said that employees are motivated with knowledge and information:

"*I don't think motivating employees is magic. It is daily leadership, motivating and presence in employees' everyday work. Openness, information sharing and always explaining why we are doing something are the main tools because information is what motivates*." – Head of media sales at Aamulehti

Head of Projects says that "A *supervisor or manager should not be giving commands but should be participatory, empowering, inspiring, educational and ask everybody to work together. Moreover, supervisors should be able to create the bigger picture for employees, give them the reason why and what we are aiming for and this way motivates people.*"

Agile methods and principles are also considered in personal targets and rewards. At OP, applying SAFe principles and other agile methods in their daily work is required from employees in their personal targets. Customer orientation is also prevalent for rewarding at OP. For example, in channel development, unit bonuses are paid based on participating customers in development, and its quality and deployment. According to project manager from OP, agile methods are encouraged by leaders only in those departments were methods are currently used, but adopt agile methods is becoming a company-wide initiative.

Alma Media has team-based bonuses if teams have performed extremely well based on certain criteria. Bonuses can also be given if an employee improves working conditions or cooperates in projects. Changes have also happened in sales rewarding. At Aamulehti, they have abandoned activity sales targets and selling bulk products. Before, it was discussed why a salesperson had not reached to the targeted amount of customer visits in development discussions. Now, supervisors and salespeople discuss which customers they have visited, what kind of customer-specific solutions they have offered, and what the supervisor and rest of the organization can do for that client. According to Head of media sales at Aamulehti:

"*This gives a lot more responsibility and freedom to try different things and a liability to innovate. I don't believe we can pour information about the changing world into the employee's head; it has to come from an interest to learn and try new things. Thus management has been changed*."

At Alma Media, they have experienced some change resistance and challenges in rewarding due to agility.

"*Mostly, HR policies are common in the whole company. Challenges arise when you try to reward employees in more traditional roles in the current digital world. For example, long-term employees value holidays given after 40 years of work. But some code makers in hoodies could not care less about these kind of benefits and find them too old-school. Thus we have try not to have too much group control and give authority to departments to make their own decisions. This requires a little creativity and compromise.*" – Head of HR, Alma Media

At Vincit, no personal bonuses are given. Bonuses are given based on the previous month's revenue, and are given every month and are the same for everyone. Interestingly, last fall, they asked employees if they wished to reveal their salaries and 80% agreed. This spring,

95% of employees agreed. Consequently, employees can see how they relate to other employees and can discuss with HR or their supervisor if they wish to increase it.

Training

At OP, the interviewee saw that training given to middle management has been extremely critical. He saw that team members in their IT department were rather knowable about agile methods due to previous experience or education. Almost all employees have been trained for SAFe. At DNA, they don't have their own developers, thus, product owner and scrum master training has been provided for about 10 employees so far and more is coming. Also, they have coaches that support teams and develop the agile process. Other than that, there is no systematic training at DNA. At Alma Media, training is something that they are going to develop and broaden. They currently have training for media sales where units can meet each other once a week and exchange ideas, the Etukenohanke, training about personal responsibility in work and development, brief employee information sessions about different topics and workshops about transforming to digital world. At Aamulahti, they had offered technical training for digital services with low participation rates, yet after Etukeno hanke inception, employees' interest in these training sessions grew rapidly.

Head of Projects from DNA, points out that an agile way of working requires certain mentoring and coaching characteristics from leadership. He sees that agile methods are easily taught with training and books, but the required leadership skills are more related to personality. Leaders in agile projects need to be able to get people working for the same goal and to comprehend dependencies and complexity.

However, education has had more of a supporting rather than enabling role in building agile organizations, according to Business Development Manager.

" *The seed for change has to come from the thrill of seeing how things work in practice. Employees must first understand what the benefits are for them before they can receive willingly new information from training. Training is not a pivotal factor, but it is good aid and gives concrete tools and seeds for thoughts that people can use and apply in their work. Training gives a framework but it is definitely not the main factor.*"

Project manager from DNA also agrees that training is only a basic layer that then needs to be applied to company-specific situations and conditions and employees' own daily work. This was also agreed by two other interviewees. Consequently, the head of HR at Alma Media

says that their main focus is learning on the job and while carrying out projects. They try to avoid planning training programs for several years, which, due to rapid changes in environment, is not always possible. Training also should be organized in an agile way by quickly reacting to new demands for training as they arise. HR specialist and Head of HR from Alma Media also agree that in future recruiting, they will be looking at people who are already knowable about agile methods and have the necessary mindset to avoid the need for training.

Leadership

As employees become more empowered and self-sufficient, what is management's role then? Firstly, Head of media sales from Aamulehti sees that when transforming to agile organization,

" *Change cannot only be a PowerPoint show with boxes showing that this is the model we will go with, but it has to be truly deployed into the organization, which is done by management and their actions setting an example*."

All interviewees agree that a leader's role in an agile organization is to support employees' work. This means motivating, being available for consultation and mentoring, assuring the necessary resources and tools, prioritizing work and goals and trusting in employees. As two interviewees mentioned, employees should no longer expect that management is going to give them detailed directions and thus the supervising role is reduced. As mentioned earlier, all unnecessary levels of hierarchy and reporting chains should be removed. According to an interviewee at OP, leaders should understand when they add value to decision-making and step aside when they don't.

Business Development Manager from OP sees that a leader's role is to show vision and common direction. In agile organizations,

" *Seeing the bigger picture and painting the common goal where everybody is heading shows why we work here and how problems should be solved become pivotal. Consequently, the top management role is to ensure that employees are moving in the right direction, removing obstacles and keeping vision clear. This is top management's role.*"

Similarly, the head of media sales at Aamulehti also emphasizes the motivating role of a supervisor for encouraging employees to search for solutions themselves and Head of Projects from DNA stresses the coaching and mentoring skills of management, as explained

in last chapter. Consequently, supervisors must be easily available for conversations and questions. All interviewees agree that this is attainable in an open-space office. At Aamulehti, they have weekly discussions with the team leader, which is directed with a template of questions to cover certain issues of strategic priority. Having small teams eases this process. The head of media sales at Aamulehti sees that setting scheduled times for the discussions makes discussions more systematic and increases job satisfaction as employees don't have to rely on only ad-hoc meetings.

As mentioned, management needs to prioritize work and goals and ensure the necessary resources and tools. Management is responsible for ensuring that teams are able to take responsibility. Management needs to ensure that teams have the necessary authorizations stated, experts in the teams, tools and other enablers of project work. Consequently, management creates conditions for great performance. Management should also trust in employees and not monitor or control their work. Instead of authoritarian leadership, as Business Development Manager says leaders,

"*lead experts and think how the best performance will be gotten out of them, how to enable and motivate, remove obstacles and keep vision clear. Also, they should act as figureheads and examples. I see that this is quite the opposite in large organizations. Another problem is that top management might be all excited, open-minded and promote agility, but middle management who is responsible for execution still hold on to more traditional, authoritarian management style. Still, top management has a huge role to play in moving things forward or else change would not be achieved*."

In general, management in large organizations seems to be a balancing act between having structure and emergency, according to Head of Projects from DNA. In order to implement strategy, ensuring that departments and units are going to the same direction and making the correct decisions to create integrated IT architecture, some structure is needed. Also, in projects, some agile practices, such as dailies and designing sprints, bring structure to project work, yet decisions should not be too farfetched.

Culture

In general, interviewees have not directly tried to influence company culture, but saw that some practices have had an effect on company culture.

However, interviewees at all case companies found that the company culture that supported the traditional mechanistic way of doing was one of the most impeding factors when transforming towards an agile organization.

"*The biggest problem must be the institutionalized organizational culture and changing that. Some units have done things in a certain way and thus this new agile way seems so weird and scary*." project manager, OP

Business Development Manager from OP also points out that when transforming towards an agile enterprise, it does not merely mean adopting agile methods but it must become an inherent part of the culture and daily work life. This way, agility won't be just at the surface level. This requires a certain kind of people, such as change agents, who can drive change at a team level, promote agile methods and show with concrete examples how agility works, how agility brings benefits and what can be achieved with agility.

At Alma Media, the head of HR explains that they have very different kinds of cultures in their organization depending on the unit and what they do. However, what is common and what they are trying to promote is a "conversation" culture where everybody feels empowered to ask questions and offer suggestions and they also try to promote people to take action. Etunojahanke is also a good example of Alma Media's approach to change the culture and to make people's mindsets more change embracing, as explained earlier. HR specialist at Alma Media also finds that different units have had unit-specific actions to change culture. At Alma Media, they have also used several training sessions and workshops.

Finally, all interviewees agree that having employees, teams and management sitting in an open-space office together and flexibility in work conditions has had a major effect on office culture.

Company vision, values and goals

Agility was mentioned in the company vision, mission or values at DNA and OP, but not directly mentioned by Alma Media. Alma Media's vision is to be the most exciting provider of information, service and experiences and set the stage for the future of media (http://www.almamedia.com/about-us/Mission+vision+strategy+values/). The head of HR at Alma Media, sees that this vision is only achievable with an agile way of thinking and doing thus it can be expected from the company. Their values also promote team play, courage and responsibility, which all contribute to agility. DNA's company values are courage,

straightforwardness and speed, which also contribute to agility. More importantly, these values are not just meant to be covered by adopting an agile method, but be part of all work. As Head of Projects at DNA says:

"*I see that we have a rather flat organization in the sense that anyone can talk to other units and departments, the CEO and other members of top management etc. in the hallway, for example. It is important the management system is not mystified and not too complicated, but we need to be close to the employee to create something meaning. That is DNA's way to operate. We have grown via several acquisitions, but I believe this kind of culture has stayed and having everybody in same building in open-space office helps especially*."

However, project manager from DNA finds that these values could be deployed to the organization more aggressively. According to her, values were only discussed once a strategy was introduced to employees.

New ways of working

Aiming for an agile organization has brought new ways of working related to OP and Alma Media. Both companies have tried to create conditions for fast testing and involve customers in testing. At OP, they have several forms of customer participation, because Business Development Manager sees that:

"*We should expand the idea that we have to test our own hypothesis as early as possible at the customer level and build prototypes, demos and go through them with the customer. This way, we know are we solving the right issue in the first place or establish whether the customer's needs are somewhere else than we thought them to be*."

At OP, they send employees to the city center in the streets, market or bank to interview customers; they also do focus groups; and have an online customer community that participates in development. Moreover, teams working on development projects interview employees who work on the front-end close to customers.

"Because they have, in a way, experience of 100 or 200 customers, the vision and understanding about customers lies with them." Business Development Manager, OP

Moreover, they have a pilot bank where they test new products and services that are in the beta stage of development. This enables them to bring new-piloted products to customers even when they are not ready. Also, in Helsinki at Aleksanterinkatu, OP has bank lab where

customers can also test new services. In the bank lab, customers can also find new information about new and upcoming services. Consequently, OP has several tools for building and testing prototypes. Similarly, Aamulehti has several magazines and newspapers. Thus, they use one magazine to test new ideas, products or perspectives and if they are successful, they use it in other magazines. They also find that Etukenohanke has been an effective way to involve customers in product development in addition to different customer surveys and research. Head of media sales at Aamulehti says:

"*But the customer is number one and with that thinking, we develop ideas or get ideas from customers. We listen to customers. This is the way it has to happen. We cannot decide what the customer wants or needs*."

As part of agility, Alma Media has tried to make their processes more sensible and straightforward. As the head of HR at Alma Media says:

"*We see that information resides in those people who work, thus all intermediate steps should be deleted and activities should be straightforward. This applies to all activities and promotes a direct dialog and cooperation among those people who are important to each other and in general and consequently, this directly reacts to and promotes a conversational culture.*"

Examples of this can be seen in HR systems at Alma Media. They have tried to digitalize all paperwork related to HR and also they deployed a new HR system in May where superiors can manage matters related to employees rather freely. For example, they can see their subordinates' information and update them directly without contacting HR. Also, supervisors can directly make change in employment and new employment contracts. This is because:

"*We try to organize our operations so that people will spend minimal time with bureaucracy and unnecessary processes, but rather focus on an agile way of doing things*" – Head of HR

Continuous development of agile models

Adopting agile methods is an important part of a project, but as one interviewee points out, these methods then turn into agile processes and then an agile team which operates their core competence in an agile way. However, interviewees agree that being agile requires a continual refinement process. Also, in developing an agile organization, organizations have to do trials to establish what does and does not work. Consequently, rapid experimentations in organization and failing fast are also part of developing an agile organization. At a small IT

company Vincit, they have tried several radical ways of organizing, but managers from larger companies say that those radical acts are only possible in small companies and cannot be scaled up to larger ones. However, as HR specialist from Vincit says,

"*We are not trying to tell other companies that this is the thing and everybody should make these changes. But it shows us this is what we need to do now. Things change all the time, thus the development of our organization does too. For this reason, it is hard to say how our practices could be applied to larger organizations. But I would encourage other companies to open-mindedly try out and try to discover new ways of operating and organizing and not to settle for something familiar and safe*."

As mentioned, case companies are in a transformation phase and have a rather clear division between agile and non-agile parts of their organization. For example, project manager describes the situation at OP:

"*Currently, agility is present in some parts of the organization, but non-existent in others. Where people are agile, the organization feels flat and it is easier to go and talk to supervisors or higher management. Whereas in some parts where agility is not present, formality is also visible in the organization. Yet, I believe that it is a company-wide target to move towards agility and agile development.*"

Interviewees at OP and DNA mentioned agile projects have been able to isolate from the non-agile organization rather well, thus operating in an agile way has been possible in these organizations. However, interviewees mention that being agile would be much easier if the whole organization was pursuing it. Interviewees also mentioned that they did not want to follow one certain agile framework too strictly, but seek to discover and adapt the best company- or situation-specific way of executing agile projects. Consequently, according to interviewees, how agility is executed seems to depend on which product or business service unit is producing requires agility and organizations need to balance between the non-agile and agile. Head of Projects from DNA also says that:

"*In projects regarding online services or anything that produces something that is visible to the customer, agility must be employed and these projects create most value when executed in an agile way. But when building networks, I find that a more traditional way of doing things is more valid and easily justified. I believe that the amount of agile teams will start to grow; yet the need for more traditional projects won't disappear but it will decrease*."

5 Discussions

All things considered, this research shows that enterprise agility is a current issue and of interest to these companies and they have accepted agility as a new competitive concept. As discussed, agility has brought several benefits to these case companies. Yet, it is important to understand the concept of enterprise agility and an agile workforce in order to manage and lead the transformation. Even though the concept of agility is well studied as are agile methods, the concepts of an agile enterprise and workforce in a larger company as an organizational level phenomenon are rather unfamiliar concepts in academic research.

The aim of this research has been to study the transformation towards enterprise agility in larger, previously traditional stock companies. The research focuses on creating and supporting workforce agility in these case companies and the organizational challenges or other consequences that arise when implementing agile management practices in the early phase of the transformation towards enterprise agility. The research also aims to understand and describe the concept of workforce agility in these case companies. The second goal is to discover the enabling and supporting management practices, methods and tools. These goals are stated in the following research questions:

1. How the organizations define the agile workforce and what are the key agile characteristics and behaviors of an agile workforce?
2. What are the management practices, methods and tools that the case companies have adopted in order to enable and support the actions of an agile workforce?

In the following chapter, these research questions and findings are discussed. The chapter discusses the description of workforce agility and the enabling and supporting tools, practices and methods employed by the case companies, the connection of the findings to the previous research and conclusions. Finally, the contributions of this research to academic research and practice and propositions for further research are presented.

5.1 Definition, Characteristics and Behaviors of Agile Workforce

The research shows that agility is something that is embedded in employees' attitudes, culture, way of working and practices. Similarly, to the literature review (Sherehiy and Karwowski, 2014), interviewees agree that enterprise agility is dependent on and only achievable through the workforce. The different characteristics of an agile workforce identified by the interviewees are presented in the revised framework above. The

characteristics and cognitive abilities of an agile workforce identified in the literature review greatly resembled the research findings. However, the research also brought new insights to the previous findings.

Dyer and Shafer (2003) make a distinction between three types of behaviors important for agile employees: proactive, adaptive and generative. Similarly, the interviewees reported that they expected employees to be able to react quickly and be flexible, but also find opportunities in the environment and constantly search and test new ideas for opportunities.

The importance of the three competencies of an agile workforce of Nijssen and Paauwe were also implied in the research. Nijssen and Paauwe discussed the ability of a quick configuration of resources and skills. The ability to react quickly was a major driver towards agility due to the fast changing environment of the case companies. At a more organizational level, interviewees described how agility meant employees' ability to find and perform tasks the" smartest way," by reducing time and waste and apply the soundest way of working. Similarly, Larman and Vodde (2008) recognized that waste such as overburdened workers, bottlenecks, waiting, handoffs, information scatter among others things should be minimized. Adopting agile ways of working was also reported to ease managing larger bodies of undertakings, thus resulting in quicker configuration, coordination and integration. In addition to skills of variety and quick configuration, ability to focus on a single assignment was mentioned in the findings. Interviewees recognized that an agile employee should be able to focus on a single task or project at a time, which sets a new requirement for resourcing and clear prioritizing for the top management. Consequently, agile employees need to be flexible, yet they also need to be able to focus on their most valuable work at hand.

Also, interviewees tend to make a clear division between more cognitive and emotional behavior. They stressed that educating and training employees about agility or problem-solving skills etc. only increases the cognitive capability, yet emotional characteristics like personality or general attitude toward learning and change are major factors influencing the agility of the whole enterprise. It was also mentioned that supporting and creating these kinds of emotional behavior was a special issue in the case companies, which is discussed the next chapter. Consequently, interviewees emphasized that employee's willingness and motivation are critical for achieving enterprise agility.

Similarly, Sherehiy (2014) and Dyer and Shafer (1998) stress that employees' willingness and motivation towards changes, flexibility and constant learning should be a major concern

among companies. As was discussed, internal motivation and passion, self-sufficiency, change-driven attitudes and courage were some of the emotional characteristics mentioned by the interviewees. Employees need to have a positive attitude and lean towards change and see it as opportunity not a threat; that they should not follow strict rules and procedures but apply when necessary, and be open-minded. Similarly, Dyer and Shafer (1998) report that agile employees at all levels should question, challenge and re-think issues, which then creates ongoing education, dialogue, debate and experimentation that in turn brings new perspectives about the market environment.

It also seems that enterprise level capabilities and agility drivers affect the characteristics of an agile employee, as was suggested by the framework. For example, OP's actions on promoting customer orientation among employees are underlined. They have paid special attention to early testing and involving customers and testing early in the product or service development process. Customer orientation could be named as a critical enterprise level capability that they wanted to build. Consequently, in comparison to other case companies, they had developed several practices and tools to support employees in acting in a customer-oriented way. Similarly, company conditions, like fast changing external conditions and high dynamic, (e.g. changes in products due to digitalization), high competition (e.g. new players such as Facebook, Google and Twitter in news media) and high diversity (such as several new product lines and extensions) forced these case companies to drive for flexibility, quick responsiveness, speed and competency that influences the expectations for employees too.

5.2 Main Issues to be Addressed in Large Firms Transferring towards Enterprise Agility

A large amount of data was received from the interviews. As in most cases, people have different opinions about various practical issues and about the importance of different aspects. However, two issues were prevalent in all cases. Firstly, some employees were excited, readily contributed and were already educated about agility and agile methods. Yet, there was still a part in the organization where agility was not valued or welcomed. Consequently, change management and creating passion and excitement toward agility were the first issues in all case companies. In this chapter, I will discuss those practices and tools that were used to arouse excitement and inner motivation and a passion for agile work and practices and the challenges that emerged. The second challenge concerns managing, supporting and organizing those employees who valued agility and were eager to adopt those practices, and creating work conditions that promote instead of deflate the resultant

excitement about agility. It is important to support those employees' work in order to prevent frustration and maintain the enthusiasm. Several practices, methods and tools for managing workforce agility were identified in the findings and listed in the revised framework. In this chapter, I will discuss those practices, methods and tools that were found important in preventing frustration arising in an environment where both agile and non-agile practices were used in these transforming companies.

Creating excitement around agility

According to the research, excitement and passion for work seems to drive people to self-sufficiency, increases productivity and makes employees excited to learn and improve their work and surroundings. Employees also need to understand that they are in charge and responsible for their work. However, there seemed to be a clear division of people's attitudes about the necessity of agility in organizations. Thus, creating excitement about agility among those who didn't appreciate or value agility was recognized as a major issue. The issue is to get employees to realize rapid changes in the environment, but also to get employees excited about exploiting the changes and not be paralyzed by them. Similarly, it was stated in previous literature that it is about the ability to act with confidence, because skills have been developed through training and experience and ensuring that the organization's best interests will be looked after in the long run (Schultz, 2014). Consequently, case companies had to find creative ways to excite people and manage the change. Training, for example, was seen to have more of a supporting role, as was stated by the head of media sales of Aamulehti:

"*I don't believe we can pour information about the changing world into the employees' heads; it has to come from their own interest to learn and try out new things.*"

In their research, Dyer and Shafer (2003) state that employees from top to bottom excel in three main types of behaviors: proactive, adaptive and generative. Etunojahanke could be an example of an undertaking that promotes both proactive and generative behavior in employees. Etukenohanke is also good example of how employees can be involved in the change process, instead of having the change process merely driven by top management. Etukenohanke had a major effect on people's attitudes, which were difficult to change. This was because Etunojahanke uses people's own experiences and insights to enlighten employees about the value of agility and recognize the rapidly changing world. As the head of human resources at Alma Media puts it:

"*The idea behind this is that prerequisite to changing an attitude in a person is that the employee observes the change and feels it in his or her stomach. You cannot lecture on how rapidly the world is changing indefinitely, because the message won't go through if the person does not observe it him or herself.*"

Other change management techniques were deployed to change employee's attitudes towards agility. For example, results and successful practices from successful agile projects and processes were shared around an organization to excite others. Also, more experienced consultants and suppliers were used to guide the process towards agile practices with their experiences and knowledge.

Other examples of creative ways to generate excitement were, for example, having continuous development discussions instead of having discussions only once or twice a year. As projects and circumstances change rapidly, so do employees' targets, worries and interests. Consequently, it was suggested that development discussions should be part of daily project work rather than a yearly milestone. Moreover, job enrichment was recognized as a major factor for creating meaningful work. Also, the research showed that having flexibility in job descriptions and roles and reacting to employees' interests increases internal motivation. Other researchers also find that job autonomy positively influences innovation (Lane et al, 2011) and personal initiation (Frese and Fay, 2001), which are both critical for enterprise agility.

The HR specialist from Vincit also provided an interesting example showing employees that since they can influence smaller matters like choosing snacks for meetings or acquiring a ping pong table, it makes them feel they can influence larger matters too. These small things communicate that employees can and are expected to take part in company-wide decisions. It was also recognized in the literature that empowerment is an important part of the change process. Even if employees find the change necessary and for the better, they might still resist change if the change is forced into practice with assertive practices (Schultz, 2014).

In addition, all case companies saw that physical work conditions, such as operating in the same building and in the same open-space office, had a major cultural impact on employees' attitude towards innovation, cooperation and participation, which are all important for agility. Also, promoting cross-functional or departmental cooperation through different practices listed in chapter 4.4.3, such as having Kiihdyttämö (incubator) in a company, increases employee motivation.

Other ways for creating excitement was to promote agility and agile methods in personal targets and rewards. For example, OP required employees' personal targets to apply SaFe methods and agile behavior. Also, Schultz (2014) agrees that infrastructure supports the new way of working and clear performance standards and guides employee actions by letting them know what is being measured and how.

Finally, the research also showed that having the possibility to focus on one task or project at a time and thus working more closely with one team, increased commitment to the project and enthusiasm to create something new and radical.

All in all, different creative methods for creating excitement were used to promote agility. Schultz (2014) similarly recommends that "*the focus should be on the mechanisms that drive their (cultural attributes) formation and influence modifications in their expression*," instead of trying to directly manipulate the cultural attributes. These mechanisms are helpful human resource practices, such as hiring, employee development, promotion, discipline, and termination (Schultz, 2014).

Promoting excitement and managing frustration

As mentioned, the second issue or challenge concerns managing, supporting and organizing the work of those employees who value agility and are eager to adopt agile practices and creating work conditions that promote instead of deflate the excitement around agility. Several practices, methods and tools for preventing frustration from arising and supporting agile employees work were identified in the research. This issue of preventing frustration emerged when comparing interviews with employees and superiors in higher decision-making positions. In general, employees faced the reality of applying agility in a mechanistic organization and thus seemed to be keener about getting practical solutions to their issues from the top management. These practical issues are related to conflicts in resourcing, investing, contracts with suppliers, silos and distributed physical locations, lack of management understanding among other things. These issues emerged because the case company organizations still largely resembled a more mechanistic and more traditionally-operated organization and thus conflicts arose when applying agile practices. Consequently, management should solve employees' issues that arise when applying agility in order to create work conditions that promote instead of deflate the created excitement around agility. The most important practices to deal with these practical issues of applying agility in largely

mechanistic organizations were new ways of working, adding transparency and information sharing, balancing between "old" and "new" worlds and the changing role of supervisors.

Some practical solutions mentioned were replacing contracts with strict terms, sanctions and fixed prices with suppliers with so-called time-material contracts. Also, it was mentioned that employees should be provided with different innovative tools and resources for early testing with customers and other end users. And more importantly, top management should encourage employees to produce new ideas, test them fast and kill them fast if necessary and thus, even expect failures in these tests. Relatedly, organizations have to carry out trials to succeed and fail to see what works and does not when developing an agile organization. As it was mentioned, constant training and information sharing is critical in agile organizations. However, it is important that training is also organized in agile way.

Related to testing, it was mentioned that it is important that the top management realizes that most trials actually fail and thus it should be expected. Employees should be encouraged to take risks and fail fast. Similarly, it is mentioned by Lanel et al. (2011) that top management has to make it acceptable to fail, since it is often through failures that people learn and adapt ideas.

In comparison to smaller or startup companies, in larger companies, the dependencies among different projects, departments and business functions grow and get more complex. As a result, it is hard for one department or a employees in the department to make decisions on their own without having an effect in other parts of the organization. Consequently, decision-makers have traditionally been the managers of these departments or functions, because they supposedly have a bigger picture of the organization and better understand these dependencies. In an agile enterprise, employees are supposed to be empowered to make decisions themselves to speed up the processes and actions. Consequently, in empowering employees or teams, sharing information and cooperating across functions and departments and gaining a bigger picture of the organization becomes even more significant. Similarly, Vázquez-Bustelo and Fernández, (2007) find in their review of knowledge sharing practices and agility that it is important to have an organizational structure that fosters team-to-team learning and firm-wide integration of learning and continuous learning.

One of the most contributory actions for increasing information sharing and cooperation is locating all departments and teams in the same building or even the same space. Similarly, Schultz (2014) sees that companies should ensure that lateral communication is open and

accurate. Flow of information highly depends on relationships and thus can be enhanced by creating boundary-spanning roles, such as committees, task forces, and cross-functional teams (Schultz, 2014). Likewise, companies reported that such a simple thing as having employees working in the same building and eating in the same cafeteria greatly increases informal conversations and thus lateral communication. Overall, they said that composing teams is extremely important to guarantee different perspectives and vast knowledge about the organization. Moreover, at Alma Media, cross- training was also used. They took reporters to the media salespersons meetings with clients to bring both perspectives to these meetings so that the reporters could better understand customers' needs and see how media sales works. Also, having project documents publicly available and using other information tools help employees to rapidly seek for information is crucial for an agile organization. Past research has also suggested that information technology is necessary for agility due to the capability of processing and distributing a large volume and variety of information in real-time, which can be then be refined with a number of IT –enabled systems (Lu and Ramamurthy, 2011). Finally, it was mentioned that having top management encouraging cross-functional information sharing and cooperation, for example with company vision and values, promotes information sharing.

Similarly, Sambamurthy et al. (2003) report that through IT, companies can develop digital options meaning digitized processes and knowledge repositories, which then enable agility by "enhancing interactions among individuals for knowledge transfer and sharing" and "support sense-making, perspective sharing and development of tacit knowledge." Technology can also be utilized in the form of collaborative platforms and portals that facilitate inter-firm and customer collaboration, such as supply-chain systems, etc. (Sambamurthy et al. 2003). Overall, in previous research, the concept of a virtual organization is considered as an important provider of agility (Zhang, 2011; Cao and Dowlatshahi, 2005). Cao and Dowlatshahi (2005) studied the impact of information technology and virtual organizations on the performance of agile manufacturers and found that the they are essential for companies to decrease product design and development cycle time, to increase product life cycle, to reduce overall product life cycle costs, and to provide more valuable and effective customer services.

Regarding cross-department cooperation, interviewees particularly emphasized the alignment and smooth cooperation between IT and business functions. Interestingly, Tallon and

Pinsonneault (2011) also show a strong positive link using data from a matched survey of IT and business executives in 241 firms that alignment, defined as the fit between information technology and business strategy, is the enabling force of enterprise agility. Their research also suggests that alignment and IT infrastructure flexibility behave as complementary capabilities that facilitate agility. Research shows that alignment results in knowledge sharing among IT and business executives and a shared understanding of the role and capabilities of IT (Preston, 2009). Consequently, Tallon and Pinsonneault (2011) suggest that the shared understanding and language of IT and business units result in better sensing and respective capability, as IT and business managers detect opportunities or threats in their environment, make better joint decisions and quickly build a consensus around the best way to react. Lu and Ramamurthy (2011) also have empirically proven the importance of IT and business alignment, but also remind us that overemphasis on IT business synergy can lead to group thinking and reactions that are biased towards IT-enabled solutions.

The case companies seemed to aim for a more organically structured organization. Yet, both the mechanistic and organic structures were present in the companies. Organic and mechanistic organizations were presented in the literature review and it was explained how they are based on distinctions, such as stability versus change, etc., which represent competing values and impose competing demands (Burns and Stalker, 1961). Consequently, operating in an agile way in an organization that still operates in a somewhat mechanistic way requires constant balancing between these competing demands, values and conditions. For example, having several different unintegrated legacy IT systems at DNA forces employees to specialize, which is against agility's idea of wider expertise and flexibility in role and resource transfer. The past research suggests that information technology is necessary for agility due to the capability of processing and distributing large volume and variety of information in real-time, which can be then be refined with a number of IT – enabled systems (Lu and Ramamurthy, 2011). However, technology and information systems have also been found to hinder or even impede organizational agility (Lu and Ramamurthy, 2011), partly due to relatively fixed physical investments in rigid legacy IT systems, inflexible IT architectures, or complex units of different technology silos (Van Oosterhout et al. 2006). Consequently, DNA tries to simplify their enterprise IT architecture by integrating and removing several different IT systems into more easily manageable amounts.

Similarly, previous research has been discovered that there are several alternative ways to build an IT infrastructure that enables or facilitates enterprise agility. There are several different IT architectural solutions (Lu and Ramamurthy, 2011) or, for example, companies "could use different mechanisms, such as built-in capabilities, globally consistent integrated data, third party add-on systems, or vendor-provided patches in enterprise systems, to enable business agility" (Goodhue et al. 2009). Consequently, different technology or information technology solutions are not discussed, because appropriate information systems vary from firm to firm.

Doz and Kosonen (2008) also recognize this issue of managing contradictions in agile leadership. They recommend that solving these contradictions should be part of the organization's discussions and different departments should be forced to resolve conflicts through common functions, processes and resources. They also recommend collective commitment, which means top management's capability to make clear targets and direction despite the complexity of the circumstances and interdependencies. Moreover, they state that decision making should include several different levels of review and interest in the organizations so that a solution that serves the whole organization can be reached and which all employees can commit to despite person- or unit-specific grievances.

Moreover, Valtasola also recognizes that leading an agile organization requires holistic management and balancing between different principles, policies and practices. She explains how since organizations must deal with and react to several factors in the environment and interests, they cannot focus on and serve one single objective. However, companies must be customer –centric and understand who they are serving (Valtasola, 2012). Consequently, due to the requirement to constantly balance between competing demands, values and conditions, larger companies may find it preferable to apply agile methodologies in their company-specific circumstances and not strictly follow one pre-defined methodology and practice.

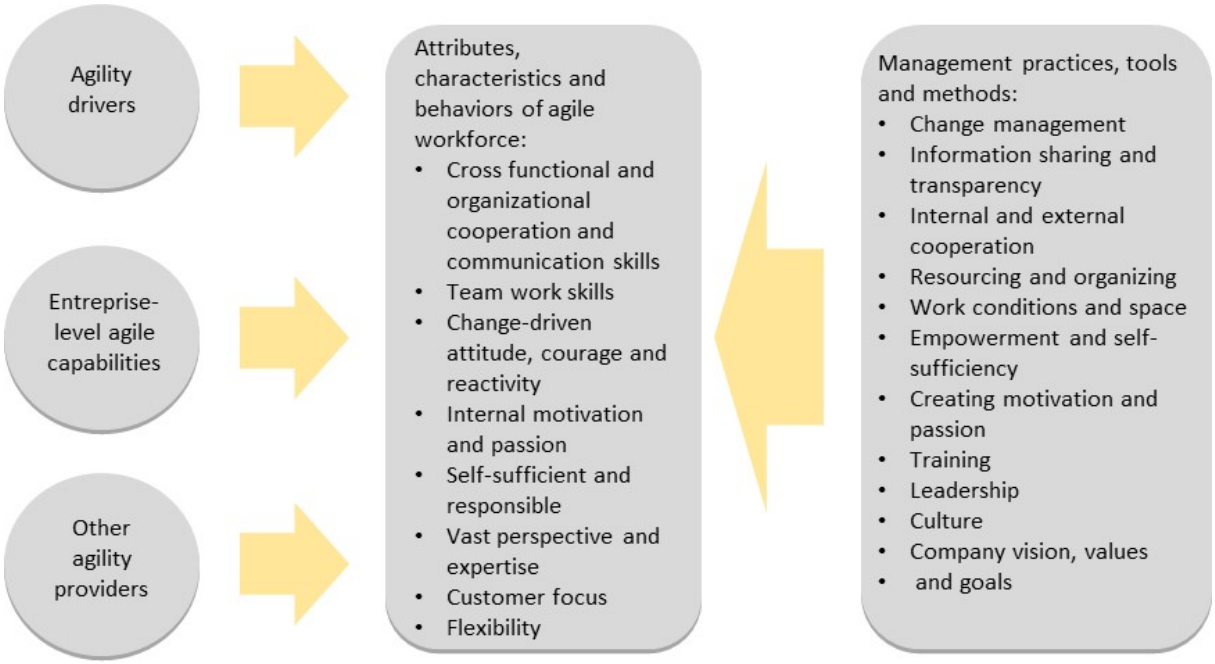
Also, it is recommended by the research that larger companies should start applying agility where it is necessary; for example, at DNA in online services and IT services that are visible to customers. Then these agile projects should be isolated from the rest of organization as much as possible so that no prominent dependencies exist in other part of the organization. Sharifi and Zhang (2000) suggest that since the changes and pressures faced by companies may be different, the degrees of agility required by individual companies will be different and will require the ability to act with confidence.

Finally, the last source of frustration is the role of management. In some cases, the issue was a lack of management's understanding of agility and agile methods. The issue could be that without management's understanding of agility, fear may be subsequently transferred to agile methods and practices. Also, if agility is merely understood as a new set of terms and concepts, management is not wholly aware of how agility operates at the individual level, and thus might bypass issues related silos, cooperation, information sharing and lack proper strategies. Consequently, management has to be educated and experienced with agility to avoid creating agility that is merely prevalent at a surface level.

Moreover, management's role is changing as employees are becoming more interdependent and connecting with each other. As discussed both in the literature review and findings, management's role is more enabling and supporting than focused on giving directions and monitoring. Superiors need to have discussions and listen their employees if there are any obstacles in employees' work or environment and then help them to solve their problems. Employees also need to be given the tools and authority to act on their own to find the smartest way to do things. Consequently, a superior's role is to prioritize and crystallize what is important and value adding. Also, it was mentioned that in project work, the nature of the project is highly dependent on the project owner. Management's roles have changed a lot in the case companies, according to the research. However, a more traditional form of management is still prevalent in middle management.

5.3 Conclusion

This study suggests that creating and promoting an agile workforce is an integral part of creating an agile organization. Companies should consider the factors presented in the framework to achieve enterprise agility. Agility drivers, enterprise-level agile capabilities, other agility providers and management practices, tools and methods affect the attributes, characteristics and behaviors of agile workforce. As a result, all the elements of enterprise agility are holistically considered and the change has a better chance of being accepted by internal stakeholders. A revised framework of the different attributes, characteristics and behaviors of agile workforce and tools, practices and methods that enable or support them:



5.4 Managerial Implications

The implications of this study contribute to the research of agile enterprise management. While it has been debated whether agility can be applied in larger companies, this study strengthens the proof for the several benefits that follow when transforming towards agile enterprise. This study sheds light on the kind of challenges and tools, methods and practices that can be considered and employed to enable and support the work of the agile workforce. However, the study was limited to the experiences of only three case companies and seven interviewees. Consequently, one could question the generalizability of the findings to other companies.

It seems that the lack of a structured approach for agile transformation causes organizations to question how to identify the right practices to adopt, how to determine the current level of agility, what the necessary preparations for agility are, and what potential difficulties could emerge during the transformation process. Consequently, this research sheds light on the process of transforming towards agile enterprise. These processes are very complex and challenging. Issues related to the workforce were recognized as a major factor affecting the success of transferring towards agile enterprise by both the previous literature and this research. Consequently, this research presents some important factors, issues and consequences that need to be recognized and managed during the transformation process. But mainly the study describes the characteristics, attitudes and behaviors of an agile workforce and how the work of agile employees can be enabled and supported.

The experiences of the three case companies can help managers in other companies to figure out what might work best for them in their environment. However, it was discovered that to make the transformation process more systematic, it could be useful for companies to firstly determine the agile capabilities that are required for the company to become agile and only then identify the practices, methods and tools that could help the workforce to reach these capabilities.

5.5 Suggestions for Further Research

The small amount of studies in agile workforces and enterprise agility suggests that further research is needed. This study is an overview of different issues related to creating agile workforces and brings forward several new questions to be studied. For example, experiences of enterprise agility in different levels of organization and cross-functional cooperation in agile enterprise are some areas that would need more attention. Also, studying the relationship between agile team members, the means to support teamwork or team dynamics could be an interesting area of research, since the tight-knit relationship between members of an agile team can either make the project flourish or run the project into total failure.

Moreover, it could be valuable to study agile workforces and agility in a company through observation. An observation study could bring a more detailed and comprehensive understanding of employees' everyday work and challenges. Many important employee characteristics, attitudes and practices may be tacitly and unconsciously embedded into the agile employees' work making it hard to identify in interviews.

Also, since these companies are only in the transfer process towards enterprise agility, it would be useful to study any later the consequences of these actions as the final outcomes are realized. Consequently, I would recommend a more longitudinal study, which would shed light on the actual outcomes and how actions and decisions about enterprise agility change over time, as surely, agility and how it is employed changes over time as circumstances and environment changes.

6 Interview Questions

Enterprise agility:

1. What are the drivers for adopting agility in your company and what does your company hope to achieve with agility?
2. Briefly, tell what agility means in your organization in practice? What kind of agile capabilities is your company trying to create?
3. Tell in your own words, how agile your company is?
4. How would you describe the traditional way of working before transforming towards agility? What were the biggest issues?

Workforce agility

5. What agile workforce means? How would you describe an agile employee or team?
6. How would you describe the nature and demands of work in agile enterprise compared to the circumstances before?

Agile management practices, methods and tools

7. How did you manage the change towards agility? What change management practices were used?
8. What new management practices, methods and tools were employed? (related to managing culture, vision, values, self-sufficiency, resourcing, decision-making, empowerment, information sharing, cooperation, transparency, leadership, training, and rewarding etc.)
9. What management practices, methods and tools you have found most important and which has resulted in issues?
10. What factors prevents you to become more agile?
11. How will agility develop in your organization? What will your company do to promote agility in the future?

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